

Jeopardy Under the Endangered Species Act: Playing A Game Protected Species Can't Win

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I. INTRODUCTION

In an insightful article analyzing relationships among federal agencies, Professors Sax and Keiter noted that one of the only things feared by the U.S. Forest Service is a jeopardy biological opinion under the Endangered Species Act (hereinafter ESA or Act).¹ Such trepidation on the part of a federal agency that is no stranger to natural resources conflicts provides a pointed illustration of the “business end” of the ESA – the ability of the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) to effectively stop outright or force significant changes to actions that jeopardize the continued existence of threatened or endangered species, an outcome expressly forbidden by section 7 of the Act.

Put simply, the ESA’s so-called “jeopardy standard” plays the determinative role in success of the statute’s protections for listed species. Through the Act’s mandatory section 7 consultation process, the jeopardy standard currently serves as virtually the sole measuring stick for determining the legality of federal actions that affect listed species. Moreover, as FWS and NMFS (collectively “the Services”) currently administer the Act, the jeopardy standard provides the bottom line for the ESA’s section 10 process for issuing permits authorizing “incidental take,” which in recent years has become the federal government’s key regulatory mechanism for influencing non-federal actions that affect protected species. Accordingly, unless either FWS or NMFS makes a finding that an activity is likely to jeopardize the continued existence of a listed species, it is likely that the ESA will not stand as a barrier to the action or its biological consequences.

Since lawmakers declined to define what constitutes “jeopardy” to listed species, FWS and NMFS are responsible for interpreting and implementing the ESA’s jeopardy standard. These agencies’ definition of what constitutes jeopardy has changed substantially since Congress enacted the ESA in 1973, particularly with regard to how the Services

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1. Joseph L. Sax & Robert B. Keiter, *Glacier National Park and its Neighbors: A Study of Federal Interagency Relations*, 14 *ECOLOGY L.Q.* 207, 226 (1987).

consider impacts on listed species' chances for recovery. The way in which FWS and NMFS assess an action's likelihood of causing jeopardy has also evolved in a manner that materially affects the outcomes of many jeopardy assessments. Perhaps most significantly, however, FWS and NMFS have in recent years begun to diverge from each other in the way they interpret the jeopardy standard.

Despite the apparent power the jeopardy standard gives to federal fish and wildlife officials to effectively halt or demand modifications to actions that adversely affect listed species, it is important to assess carefully whether this standard has resulted in significant on-the-ground protections. Unfortunately, such an analysis reveals that the jeopardy standard's reality is a far cry from its promise. In their day to day implementation of section 7, the Services seldom use the jeopardy standard to draw a clear biological line in the sand; rather, the concept of jeopardy often amounts to little more than a vague threat employed by FWS and NMFS to negotiate relatively minor modifications to federal and non-federal actions. The Services commonly approve project after project that have significant impacts on threatened and endangered species and their habitats, pushing these organisms incrementally closer to extinction. Meanwhile, FWS and NMFS opinions concluding that a proposal is actually likely to jeopardize a threatened or endangered species are extremely rare – a statistic, which in all likelihood indicates that the ESA is falling short of stopping activities that imperil listed species rather than demonstrates the dearth of such activities.

The causes of the jeopardy standard's ineffectiveness are myriad: legal shortcomings in FWS' and NMFS' interpretation of the jeopardy standard itself, procedural limitations on how the Services assess jeopardy, and even basic agency misunderstandings of conservation biology. Together these problems have significantly undermined the ESA's most basic protection for species facing extinction. However, the silver lining to the rather grim current state of affairs is that the jeopardy standard's failings stem principally from administrative interpretations and policies rather than weaknesses in the statute itself. If the federal government is actually committed to stemming the continued decline of many threatened and endangered species, both FWS and NMFS must act expeditiously to reform their interpretations and implementation of the Act's jeopardy standard. A recent interpretation of jeopardy by NMFS in the Pacific Northwest provides a ray of hope that such action may be underway on at least a limited scale.

This article presents an overview of the ESA's jeopardy standard and its present inability to provide adequate protections for threatened and endangered species. Section II explains how the jeop-

ard standard plays the central role in the Act's regulation of both federal and non-federal actions that affect listed species and their habitat. Section III describes the evolution of FWS' and NMFS' definition of the jeopardy standard, including the agencies' sometimes divergent present-day applications of this concept and a brief overview of key court decisions interpreting jeopardy. Finally, Section IV makes the case for why the agencies' current interpretation of jeopardy often deprives listed species of protections to which they should be legally entitled, and provides suggestions for transforming the ESA's jeopardy standard from a mere bargaining chip into a tool for halting and reversing species' incremental slide toward extinction.

II. THE JEOPARDY STANDARD'S PRIMACY IN STATUTORY PROTECTIONS FOR THREATENED AND ENDANGERED SPECIES

On its face, the ESA includes myriad protections for threatened and endangered species, including seemingly different standards of conduct for federal agencies and non-federal entities. However, as this section demonstrates, the jeopardy standard stands ultimately as the bottom-line regulatory requirement for virtually all actions that affect listed species and their habitat.

A. *Requirements Applicable to Federal Agencies*

Section 7(a) of the Act sets forth three principal substantive requirements applicable to federal agency actions. Section 7(a)(1) directs that the Secretaries of Interior and Commerce use programs administered by these departments "in furtherance of the purposes" of the ESA.² Similarly, this section requires that all other federal agencies, in consultation with the Secretaries, also exercise their authorities to advance the Act's purposes by "carrying out programs for the conservation" of listed species.³ In addition, section 7(a)(1) mandates that all federal agencies "insure" that all actions they authorize, fund, or carry out are not likely to "jeopardize the continued existence of" listed species or "result in the destruction or adverse modification" of critical habitat of threatened and endangered species.⁴ Of these three requirements, however, two have played relatively small roles in regulating federal agencies' actions that affect listed species.

2. 16 U.S.C. §1536(a)(1) (1999). Congress set forth the ESA's purposes in the first section of the statute.

3. *Id.*

4. *Id.* at §1536(a)(2). In joint regulations implementing section 7, FWS and NMFS have taken the position that these section 7 prohibitions do not apply to actions of federal agencies carried out in other countries. See 50 C.F.R. § 402.01(a) (2000).

To the chagrin of many environmental organizations, the affirmative conservation mandates of section 7(a)(1) have historically exerted little influence over the actions of federal agencies. FWS and NMFS have never issued regulations interpreting or implementing these requirements, save for a provision in their joint consultation regulations which authorizes these agencies to include a separate section in biological opinions that provides federal action agencies with “conservation recommendations.”⁵ However, this regulatory provision explicitly emphasizes that such recommendations “are advisory and are not intended to carry any binding legal force.”⁶ Though commentators have outlined the broad potential of section 7(a)(1) to give listed species substantial legal protections⁷ and one appellate court has found that it mandates agencies to develop programmatic recovery strategies,⁸ this section plays a very minor role in regulating the day to day activities of federal agencies.

Likewise, despite its prominence as one of the two primary prohibitions of section 7(a)(2), the ban on destruction or adverse modification of critical habitat has also had relatively little impact on the actions of federal agencies. This is largely the result of FWS’s longstanding practice, despite statutory language to the contrary, of rarely issuing formal designations of critical habitat when it lists species as threatened or endangered.⁹ Accordingly, the overwhelming majority of listed species currently lack designated critical habitat, rendering inapplicable for these species the statutory ban on adverse impacts to this habitat.¹⁰

5. See 50 C.F.R. § 402.14(j).

6. *Id.*

7. See J.B. Ruhl, *Section 7(a)(1) of the “New” Endangered Species Act: Rediscovering and Redefining the Untapped Power of Federal Agencies’ Duty to Conserve Species*, 25 ENVTL. L. 1107 (1995); Federico Cheever, *The Road to Recovery: A New Way of Thinking About the Endangered Species Act*, 23 ECOLOGY L.Q. 1 (1996).

8. See *Sierra Club v. Glickman*, 156 F.3d 606 (5th Cir. 1998). In this case, the Fifth Circuit held section 7(a)(1) obligates federal agencies to develop, in consultation with FWS or NMFS, a program to conserve each listed species that the agency could potentially assist through exercise of its authorities. To date, however, this opinion has had limited influence outside the factual circumstances under which it arose.

9. In 1978, Congress amended the ESA to require that FWS and NMFS designate critical habitat for threatened and endangered species concurrent with listing “to the maximum extent prudent and determinable . . .” 16 U.S.C. § 1533(a)(3). However, for the vast majority of species it listed as threatened or endangered from 1978 through the late 1990s, FWS followed a de facto policy of determining that critical habitat was not prudent. For a discussion of this practice, see Thomas F. Darin, *Designating Critical Habitat Under the Endangered Species Act: Habitat Protection Versus Agency Discretion*, 24 HARV. ENVTL. L. REV. 209 (2000). In contrast to FWS, NMFS has generally designated critical habitat for those species it has listed, which have significant terrestrial or near-shore habitat such as salmon, Stellar sea lions, and monk seals. Overall, however, NMFS has listed far fewer species than FWS (compare FWS’s listing totals reported at U.S. FISH & WILDLIFE SERV., THE ENDANGERED SPECIES PROGRAM, <http://endangered.fws.gov/wildlife.html#Species> with NMFS’ listings, reported at NAT’L MARINE FISHERIES SERV., NOAA FISHERIES, http://www.nmfs.noaa.gov/prot_res/species/ESA_species.html).

10. Regulations implementing section 7 provide that only areas formally identified by FWS or NMFS through a rulemaking process constitute critical habitat. See 50 C.F.R. § 402.02 (2000) (definition of critical habitat). As of August, 2001, FWS had designated critical habitat for only

Though suits by environmental plaintiffs in recent years have forced FWS to begin to designate critical habitat,¹¹ both FWS and NMFS have interpreted “destruction or adverse modification” of critical habitat¹² in a manner which the agencies contend renders the ban on such habitat impacts redundant with section 7’s jeopardy standard. FWS’ final rule designating critical habitat for southwest willow flycatchers provides a good summary of this argument:

Implementing regulations . . . define “jeopardize the continued existence of” and “destruction or adverse modification of” in virtually identical terms. Jeopardize the continued existence of means to engage in an action “that reasonably would be expected * * * to reduce appreciably the likelihood of both the survival and recovery of a listed species.” Destruction or adverse modification means an “alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.” Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species, in the case of critical habitat by reducing the value of the habitat so designated. Thus, actions satisfying the standard for adverse modification are nearly always found to also jeopardize the species concerned, and the existence of a critical habitat designation does not materially affect the outcome of consultation. This is in contrast to the public perception that the adverse modification standard sets a lower threshold for violation of section 7 than that for jeopardy.¹³

In other words, FWS and NMFS currently interpret section 7’s prohibition on destroying or adversely modifying critical habitat to be simply another version of section 7’s jeopardy standard. This view of section 7 is highly questionable; FWS’ past interpretations of statutory

138 of the 1244 species listed as threatened or endangered in the United States (this total does not reflect the modest number of critical habitat designations issued by NMFS). See U.S. Fish & Wildlife Serv., THREATENED AND ENDANGERED SPECIES SYSTEM (TESS), <http://ecos.fws.gov/tess/html/boxscore.html> for FWS’s tally of species listed under the ESA. See U.S. Fish & Wildlife Serv., http://ecos.fws.gov/webpage/webpage_crithab.html for the total number of critical habitat designations issued by FWS.

11. For example, see *NRDC v. U.S. Department of Interior*, 113 F.3d 1121 (9th Cir. 1997). There, the court rejected FWS’s arguments that critical habitat designation would subject the listed species to increased threats by revealing its habitat, as well as spurned defendants’ assertion that the designation would not benefit the species. The court noted that FWS’s broad view of these reasons not to designate critical habitat was inconsistent with clear congressional intent to the contrary. See *id.* at 1126. Numerous other courts have ordered FWS to designate critical habitat for listed species. On its web site, the Center For Biological Diversity – one of the most frequent litigants over critical habitat designations – lists many of the critical habitat designations required by court order. See CTR. FOR BIOLOGICAL DIVERSITY, THE RACE AGAINST EXTINCTION: BIODIVERSITY AND ENDANGERED SPECIES, <http://www.sw-center.org/swcbd/dbase/DBASE.HTML>.

12. The joint section 7 regulations define “destruction or adverse modification” to mean “a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.” 50 C.F.R. § 402.02.

13. Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39129, 39131 (July 22, 1997).

protections for critical habitat,¹⁴ scholarly analyses of the ESA and its legislative history,¹⁵ and a recent court decision finding facially invalid the regulatory definition of “destruction or adverse modification”¹⁶ all cast considerable doubt on the agencies’ position. Nevertheless, for purposes of this analysis the salient point is that FWS and NMFS interpret the jeopardy standard as the sole limitation on federal actions, even when these actions affect designated critical habitat.¹⁷ Even if FWS and NMFS eventually modify their policies or regulations to treat destruction or adverse modification of critical habitat differently from the jeopardy standard, the latter would still serve as the primary regulatory requirement for federal conduct given the pau-

14. In designating critical habitat for northern spotted owls in 1992, FWS set forth a very different interpretation of the legal meaning of section 7 protections for critical habitat:

Section 7 prohibitions against the destruction or adverse modification of critical habitat apply to actions that would impair survival and recovery of the listed species, thus providing a regulatory means of ensuring that Federal actions within critical habitat are considered in relation to the goals and recommendations of a recovery plan. As a result of the link between critical habitat and recovery, the prohibition against destruction or adverse modification of the critical habitat should provide for the protection of the critical habitat’s ability to contribute fully to a species’ recovery. Thus, the adverse modification standard may be reached closer to the recovery end of the survival continuum, whereas, the jeopardy standard traditionally has been applied nearer to the extinction end of the continuum.

Determination of Critical Habitat for the Northern Spotted Owl, 57 Fed. Reg. 1796, 1822 (Jan. 15, 1992). This interpretation of section 7 is consistent with a draft policy sent by the FWS Deputy Director to all FWS Regional Directors on June 26th, 1992, entitled “Draft Guidance on Designating Critical Habitat for Endangered and Threatened Species.” This document noted that “[t]he Solicitor’s office advises that the thresholds for Section 7 ‘jeopardy’ and ‘destruction or adverse modification of critical habitat’ are different and that, in most cases, designation of critical habitat may provide greater conservation benefits to the species.” FWS never finalized this draft policy. Draft Guidance on Designating Critical Habitat for Endangered and Threatened Species, from Deputy Director, U.S. Fish & Wildlife Serv., to Regional Directors, U.S. Fish & Wildlife Serv. (June 26, 1992) (on file with author).

15. Many commentators have pointed out the flaws in this interpretation. See, e.g., DANIEL J. ROHLF, *THE ENDANGERED SPECIES ACT, A GUIDE TO ITS PROTECTIONS AND IMPLEMENTATION* 152 (1989); Oliver A. Houck, *The Endangered Species Act and its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277, 307 (1993); Jack McDonald, *Critical Habitat Designation Under the Endangered Species Act: A Road to Recovery?*, 28 ENVTL. L. 671 (1998); E. Perry Hicks, *Designation Without Conservation: the Conflict Between the Endangered Species Act and its Implementing Regulations*, 19 VA. ENVTL. L.J. 491 (2000).

16. *Sierra Club v. U.S. Fish & Wildlife Serv.*, 245 F.3d 434, 445 (5th Cir. 2001). However, the dispute in this case arose in a challenge to FWS’s decision not to designate critical habitat for gulf sturgeon, not a challenge to agency findings under section 7. As of Fall, 2001, FWS and NMFS had made no effort to modify the regulatory definition ruled invalid by the court. Prior to this decision, FWS was considering either revising the regulatory definition of “destruction or adverse modification” or providing further guidance on this subject; the agency asked the public to comment on issues surrounding critical habitat in 1999. See Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31871 (June 14, 1999). However, the agency made it clear in its request for comments that it interpreted critical habitat protections as redundant. See *id.*

17. Despite the fact that FWS and NMFS have for many years taken the legal position that critical habitat provides no legal protections for listed species beyond those enjoyed by these species under the jeopardy standard, it is quite likely that critical habitat designations – as a practical matter – do in fact provide additional security to the relatively few listed species with designated critical habitat. See Houck, *supra* note 15, at 307-09.

city of critical habitat designations and the slow pace at which FWS could designate critical habitat.¹⁸

So how does the jeopardy standard work? All federal agencies have an obligation to insure independently that their actions do not jeopardize the continued existence of listed species.¹⁹ However, consultation between FWS or NMFS and a federal agency proposing an action that “may affect” a listed species typically plays the dominant role in assessing the likelihood that the agency proposal will jeopardize a listed species.²⁰ In this process, the action agency provides FWS and/or NMFS with information on how its proposal is likely to affect listed species.²¹ Except for actions that the agency and appropriate Service mutually agree are “not likely to adversely affect” listed species,²² FWS and NMFS issue “biological opinions” assessing the likelihood that proposed actions pose a threat of jeopardy.²³ Even though biological opinions technically constitute only advice to an action agency, the Supreme Court has recognized the Services’ biological opinions as almost always constituting the last word on the issue of jeopardy.²⁴ Thus, as a practical matter FWS and NMFS have the power to determine what does and what does not constitute jeopardy to listed species, or in other words, what is and is not prohibited under section 7.

At least in theory, this power to make jeopardy/no jeopardy calls gives FWS and NMFS enormous leverage over actions that affect threatened and endangered species. Absent an extremely rare ex-

18. In 1999, FWS asked for comments from the public to assist the agency in “clarifying” the role critical habitat protections play under section 7. *See* Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31871. In this notice, FWS also explained that designating critical habitat entails significant amounts of the agency’s time and resource expenditures. While FWS may tend to overemphasize the difficulties and expenditures involved in designating critical habitat due to the agency’s longstanding antipathy toward this provision of the ESA, there is no doubt that the sheer volume of work involved in designating critical habitat for huge numbers of species within the United States currently listed but lacking defined critical habitat would require a great deal of time and money.

19. *See* Pyramid Lake Paiute Tribe v. U.S. Navy, 898 F.2d 1410, 1415 (9th Cir. 1990) (“[W]hile consultation with the FWS may have satisfied the Navy’s *procedural* obligations under the ESA, the Navy may not rely solely on a FWS biological opinion to establish conclusively its compliance with its *substantive* obligations under section 7(a)(2).”) (emphasis in original).

20. Section 7 requires that federal agencies insure against jeopardy “in consultation with and with the assistance of the Secretary” 16 U.S.C. § 1536(a)(2) (1999). The joint FWS/NMFS regulations describing this consultation process, including the “may affect” threshold for initiating consultation, appear at 50 C.F.R. § 402.14 (2000).

21. *See* 50 C.F.R. § 402.14(c). Both action agencies as well as FWS and NMFS must use “the best scientific and commercial data available” in complying with their obligations under section 7. 16 U.S.C. § 1536(a)(2).

22. An action agency determination that its proposed action is “not likely to adversely affect” listed species, if seconded in writing by FWS or NMFS, terminates the section 7 consultation process and effectively allows the action to proceed. *See* 50 C.F.R. § 402.14(b)(1).

23. For the required contents of biological opinions, *see* 16 U.S.C. § 1536(b)(3)(A) and 50 C.F.R. § 402.14(h).

24. *See* *Bennett v. Spear*, 520 U.S. 154 (1997). In that opinion, Justice Scalia acknowledged that a biological opinion “theoretically serves an ‘advisory function,’” but noted that the opinion’s conclusions are “virtually determinative.” *Id.* at 169-70.

emption granted by the so-called “God Squad,”²⁵ federal agencies may not fund, authorize, or carry out actions that FWS or NMFS concludes are likely to jeopardize listed species.²⁶ Thus, a jeopardy finding can be the “kiss of death” for an agency endeavor. Even if it does not completely halt a project, a jeopardy finding effectively gives FWS or NMFS ultimate control over how an agency modifies its proposal to lessen its impact on protected species. If FWS or NMFS concludes that a federal action is likely to jeopardize a listed species, the Service must identify “reasonable and prudent alternatives” to the project that would avoid jeopardy.²⁷ Given that the other choice for the agency in the face of a jeopardy finding is generally no action at all, the “alternatives” identified by FWS or NMFS are effectively commands rather than suggestions.²⁸

B. *Requirements Applicable to Non-Federal Entities*

While most people associate the jeopardy standard with regulating federal actions, jeopardy also effectively serves as the primary regulatory standard for non-federal land use activities that impact listed species (other than listed plants). To understand this somewhat surprising assertion, one must examine the close links between section 7 and section 10 of the Act.

On its face, the ESA differentiates between actions by federal and non-federal actors. Section 7’s prohibitions do not apply to non-federal entities, though they play an important, albeit indirect, role in non-federal actions that receive federal funding or that must secure federal permits.²⁹ Absent a federal nexus, non-federal actors must

25. In 1978, Congress amended the ESA to empower a cabinet-level “Endangered Species Committee” to exempt actions from the strictures of section 7. See 16 U.S.C. § 1536(e)-(o). The Committee’s power over the very existence of species on the brink of extinction earned it the nickname of the “God Squad.”

26. *Id.* at § 1536(a)(2).

27. *Id.* at § 1536(b)(3)(A). Section 7 regulations define reasonable and prudent alternatives to mean:

[A]lternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency’s authority and jurisdiction, that is economically and technically feasible, and that the Director believes would avoid the likelihood of jeopardizing the continued existence of listed species

50 C.F.R. § 402.02.

28. In one case, an action agency prevailed against an ESA challenge despite having failed to implement the reasonable and prudent alternatives identified in a jeopardy opinion. In *Village of Akutan v. Hodel*, 859 F.2d 651 (9th Cir. 1988), the court upheld issuance of offshore oil and gas leases despite the Secretary of Interior’s deviations from reasonable and prudent alternatives outlined in a jeopardy biological opinion issued by NMFS. The court found that the Secretary could comply with section 7(a)(2) so long as he formulated “alternative, reasonably adequate steps to insure the continued existence of any endangered or threatened species.” *Id.* at 660. However, the court also noted that any risks to listed whales as a result of the agency action at issue were “virtually nonexistent.” *Id.* at 661.

29. Prior to permitting or contributing funding to non-federal activities, a federal agency must of course complete the section 7 consultation process and insure that its action will not cause or contribute to a violation of section 7(a)(2). While the outcome of this section 7 process

heed only the prohibitions set forth in section 9 of the Act.³⁰ This section affects land use activities through the ban on “taking” endangered fish and wildlife species.³¹ It is important to note that this provision does not apply to plants,³² and does not automatically apply to fish and wildlife listed as threatened. The ESA requires FWS and NMFS to adopt regulations “necessary and advisable to provide for the conservation” of the latter, which may include a prohibition on take.³³ FWS and NMFS have in fact applied a take prohibition to the vast majority of threatened species.³⁴

The ESA defines “take” broadly.³⁵ Both FWS and NMFS regulations interpret the terms “harm” and “harass” within the statutory definition to ban actions that modify the habitat of protected species in a manner that results in their death or injury.³⁶ In theory, this sweeping prohibition affects land use on vast areas of non-federal land, from small residential lots to large corporate properties.³⁷ Significantly, at least two appellate courts have held that state or local regulators may also run afoul of the take ban if they approve activities of third parties that result in death or injury to protected species, a

can have a significant or even determinative effect on the actions of affected non-federal entities, these parties get a potentially valuable bonus from their project’s link to a federal action: an incidental take statement issued by FWS or NMFS under 16 U.S.C. § 1536(b)(4) can also authorize a non-federal actor to incidentally take protected species. See *Ramsey v. Kanter*, 96 F.3d 434 (9th Cir. 1996).

30. See 16 U.S.C. § 1538. These prohibitions apply to federal agencies and personnel as well. Similar to the ESA’s treatment of non-federal entities, the Services may authorize federal agencies to “incidentally” take protected species. See *infra* note 89.

31. The ESA prohibits any person subject to United States’ jurisdiction from “taking” endangered species of fish and wildlife. 16 U.S.C. § 1538(a)(1)(B). Scholarship on this provision of the ESA, particularly its effect on land use on non-federal land, is legion. See, e.g., Duane J. Desidenco, *Sweet Home on the Range: A Model for As-Applied Challenges to the “Harm” Regulation*, 3 ENVTL. LAW. 725 (June 1997); Lawrence R. Liebesman, Esq. & Steven G. Davison, *Takings of Wildlife Under the Endangered Species Act After Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 5 U. BALT. J. ENVTL. L. 137 (1995).

32. The statute sets forth prohibitions applicable to plants at 16 U.S.C. § 1538(a)(2). For plants on non-federal land, the ESA provides only narrow protections. See *id.* § 1538(a)(2)(E).

33. *Id.* at § 1533(d).

34. FWS has adopted a “blanket” regulation, which automatically prohibits take of a threatened species at the time it is listed, unless FWS issues a specific rule for that individual species pursuant to its authority under section 4(d). See 50 C.F.R. § 17.31(a) (2000). NMFS, on the other hand, promulgates protective regulations for each threatened species it lists. NMFS has generally prohibited take in its species-specific rules, but has included significant actual as well as potential exceptions to its take bans. See Robert L. Fischman & Vicky J. Meretsky, 41 WASHBURN L.J. xx (2001) for a comprehensive discussion of NMFS’ approach to its so-called 4(d) rules.

35. Take “means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. § 1532.

36. See 50 C.F.R. § 17.3 (FWS’s definition of “harm” and “harass”); *id.* at § 222.102 (NMFS’ definition of harm). The U.S. Supreme Court upheld FWS’s definition of harm in *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995).

37. Significant scholarly commentary has analyzed the legal and policy implications of the ESA’s reach over non-federal lands. See, e.g., J.B. Ruhl, *Biodiversity Conservation and the Ever Expanding Web of Federal Laws Regulating Non-Federal Lands: Time for Something Completely Different?* 66 U. COLO. L. REV. 555 (1995); Michael J. Bean, *The Endangered Species Act and Private Land: Four Lessons Learned from the Past Quarter Century*, 28 ENVTL. L. REP. 10701 (1998).

liability theory that potentially encompasses vast numbers of licensing and permitting decisions.³⁸

Despite its potentially enormous scope, section 9's take prohibition has had only a moderate impact on the actions of non-federal landowners and regulators for two reasons. First, neither FWS nor NMFS has made enforcement of the ESA's take prohibitions a high priority. For example, in a five year period from 1988 to 1993, the General Accounting Office identified only eight successful prosecutions nationwide against habitat destruction that resulted in take of protected species.³⁹ Rather than aggressively pursuing take prosecutions, FWS and NMFS have instead put significant resources into encouraging non-federal actors to voluntarily make use of the Act's mechanisms for authorizing take of protected species.⁴⁰ Section 10 of the statute grants FWS and NMFS power to issue permits allowing "incidental" take of listed species, provided that the non-federal party seeking the permit complies with a list of statutory conditions.⁴¹ The penultimate condition involves the applicant's preparation – and FWS' or NMFS' approval of – a "conservation plan," which has come to be known as a habitat conservation plan or HCP.⁴² When FWS or NMFS approves an HCP and grants an incidental take permit, the

38. See *Loggerhead Turtle v. County Council of Volusia County*, 148 F.3d 1250 (11th Cir. 1998) (county's inadequate regulation of beach lighting constitutes a taking of endangered sea turtles); *Strahan v. Cox*, 127 F.3d 155, 167-70 (1st Cir. 1997) (state committed takings of protected whales by licensing fishing activities using nets that entangled protected whales). Additionally, the Ninth Circuit seemed to assume that a state would be liable for illegal takings of protected salmon if it authorized fishing activities that would result in incidental harvest of these species. See *Ramsey v. Kanter*, 96 F.3d 434, 442 (9th Cir. 1996).

39. General Accounting Office, Information on Species Protection on Nonfederal Lands, GAO/RCED Rep. No. 95-16 (1994) (on file with author).

40. FWS and NMFS have attempted to provide a number of incentives for non-federal landowners to voluntarily prepare a conservation plan for their land, including the so-called "no surprises" policy, offers of technical assistance, and procedures to streamline permit issuance. See U.S. FISH & WILDLIFE SERV., TOOLS FOR PRIVATE LANDOWNERS, <http://endangered.fws.gov/landowner/index.html> (FWS document discussing extensive federal funding available for devising and implementing HCPs); Habitat Conservation Plan Assurances ("No Surprises") Rule, 63 Fed. Reg. 8859 (Feb. 23, 1998) (final regulation implementing "no surprises" rule); see also, Donald C. Baur & Karen L. Donovan, *The No Surprises Policy: Contracts 101 Meets the Endangered Species Act*, 27 ENVTL. L. 769 (1997); Eric Fisher, *Habitat Conservation Planning Under the Endangered Species Act: No Surprises and the Quest for Certainty*, 67 U. COLO. L. REV. 371 (1996). Moreover, though technically a mechanism for carving out exceptions to prohibitions of take of threatened species, NMFS' 4(d) rules for Pacific salmonids represent an effort by the agency to provide incentives to state and local regulators to formulate and enforce salmon conservation plans. See Fischman & Meretsky, *supra* note 34; NOAA FISHERIES, NAT'L MARINE FISHERIES SERV., THE ESA AND LOCAL GOVERNMENT: INFORMATION ON 4(d) RULES (May 7, 1999), at <http://www.nwr.noaa.gov/1salmon/salmesa/4dguid2.htm> (NMFS' explanation of its program to encourage local jurisdictions to use the agency's 4(d) process).

41. See 16 U.S.C. § 1540(a)(1)(B), (a)(2)(A) (1999). "Incidental" take refers to takings that result from, but are not the purpose of, carrying out an otherwise lawful activity. See 50 C.F.R. § 17.3.

42. 50 C.F.R. § 17.3. There is also a large body of commentary on HCPs. See, e.g., 14 ENDANGERED SPECIES UPDATE, NOS. 7 & 8 (July/Aug. 1997) (symposium issue devoted to HCPs); Graham M. Lyons, *Habitat Conservation Plans: Restoring the Promise of Conservation*, 23 ENVTL. L. & POL'Y J. 83 (1999); John P. Tazzo, *Habitat Conservation Plans as Recovery Vehicles: Jump-Starting the Endangered Species Act*, 16 UCLA J. ENVTL. L. & POL'Y. 297 (1997-98).

permit-holder may, if acting consistent with terms of its HCP, modify habitat or take other actions that result in take of protected species. Unlike the number of take prosecutions, the number of incidental take permits issued by FWS and NMFS has soared over the past six years.⁴³

Accordingly, the standards for issuance of incidental take permits of section 10 – rather than section 9's take prohibition itself – effectively serve as the ESA's primary mechanism for governing land use on non-federal lands that affect protected species.⁴⁴ Actively encouraged by FWS and NMFS as a “win-win” approach to the politically sticky issue of regulating state and private land, incidental take permits and associated HCPs and related documents today apply to millions of acres of land.⁴⁵ Municipalities are even employing HCPs as a means of planning and directing urban growth.⁴⁶

43. See John Kostyack, *NWF v. Babbitt: Victory for Smart Growth and Imperiled Wildlife*, 31 ENVTL. L. REV. 10712, 10713 (2001) (noting that FWS had issued only fourteen incidental take permits prior to 1993, but had issued nearly 300 by 2001).

44. This is not to say, however, that section 9's take prohibition has negligible effects on the conduct of non-federal entities. Parties may in at least some cases adjust their activities to avoid the possibility of taking protected species, even in the absence of significant enforcement efforts. To encourage this sort of behavior, FWS occasionally will informally enter into a “take avoidance agreement,” memorialized by an exchange of letters between a landowner and the agency. A letter from FWS concluding that a proposal is not likely to take listed species is often useful to the landowner in obtaining state or local authorizations for a project. Additionally, FWS and NMFS have encouraged non-federal landowners to take actions to benefit species not even listed under the ESA. Under the Conservation Agreement with Assurances program, a landowner agrees to take actions to benefit a declining species in support of efforts to prevent a need to list the species as threatened or endangered. In return, the landowner receives assurances from FWS or NMFS that the landowner will not face additional restrictions on his or her actions if the species is eventually listed. See 50 C.F.R. § 17.22(a)(1); Announcement of Final Policy for Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32726 (June 17, 1999).

45. According to FWS, HCPs in 2001 apply to approximately thirty million acres of land. See U.S. FISH & WILDLIFE SERV., ENDANGERED SPECIES HABITAT CONSERVATION PLANNING, <http://endangered.fws.gov/hcp/index.html>. The Services' Safe Harbor program is also closely related to concepts underlying HCPs and incidental take permits. Under a Safe Harbor agreement, a landowner agrees to manage her property for a given time period in a manner that could benefit listed species. However, at the end of that period, the landowner may return the land to “baseline” conditions (e.g., harvest trees allowed to grow for a number of years) even though this action may incidentally kill or injure protected species. See generally 50 C.F.R. § 17.22(a)(1); Safe Harbor Agreements and Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32706 (June 17, 1999).

46. For example, Pima County, Arizona (which surrounds Tucson and its metropolitan area) has made preparation of a comprehensive HCP, known as the Sonoran Desert Conservation Plan (SDCP), the centerpiece of efforts to regulate its explosive growth. See NAT'L WILDLIFE FED'N, NATOMAS BASIN LAWSUIT SETTLED WITH LONG-TERM WILDLIFE VICTORY (May 16, 2001), at <http://www.co.pima.az.us/cmo/sdcp/> (official web site for the SDCP). FWS granted an incidental take permit for a host of listed species to the city of San Diego, based on an HCP intended to affect development in the city over the next fifty years. Notice of Fish and Wildlife Receipt of An Application from the County of San Diego, California for an Incidental Take Permit, 62 Fed. Reg. 61140 (Nov. 14, 1997). One of the most contentious HCP processes involves the Sacramento, California metropolitan area; after environmental organizations successfully challenged FWS's approval of the city's HCP, the parties negotiated a settlement calling for more protection of listed species. See Nat'l Wildlife Fed'n v. Babbitt, 128 F. Supp. 2d 1274 (E.D. Cal. 2000); NAT'L WILDLIFE FED'N, NATOMAS BASIN LAWSUIT SETTLED WITH LONG TERM WILDLIFE VICTORY (May 16, 2001), at <http://www.nwf.org/smartgrowth/natomaslawsuit.html>; Kostyack, *supra* note 43.

The Services employ a familiar bottom line in deciding whether an HCP passes muster – the jeopardy standard. The ESA actually requires *two* jeopardy analyses before FWS or NMFS can approve an HCP and issue an incidental take permit. First, among section 10's list of findings required for issuance of an incidental take permit, the Services must find that the taking, if approved, "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."⁴⁷ While this statutory phrase does not contain the term "jeopardy," lawmakers in 1982 intentionally borrowed the then-applicable regulatory definition of "jeopardize the continued existence of" to supply the wording of this provision.⁴⁸ In addition to this required finding under section 10, issuance of an incidental take permit constitutes a federal action that obviously may affect one or more listed species. Accordingly, FWS or NMFS must engage in section 7 consultation (with itself) prior to issuing such a permit.⁴⁹ The procedures and substantive requirements of section 7(a)(2), most prominently the jeopardy standard, thus apply to HCPs as well as federal agency actions.

C. Summation

To understand the ESA's principle substantive protection for threatened and endangered species, one must understand the jeopardy standard. Jeopardy serves as not only the ultimate statutory determinate for go/no go decisions regarding actions of federal agencies, it effectively also provides the yardstick for regulating impacts on listed species resulting from activities on non-federal land. But with the central importance of the jeopardy standard come questions. How effective a barrier against extinction is the ESA's dominant command to avoid jeopardy? Moreover, Congress had greater goals in mind than merely avoiding extinction when it passed the Act; the purposes of the ESA include conservation – i.e., recovery – of listed species and

47. 16 U.S.C. § 1540(a)(2)(B)(iv) (1999).

48. See H.R. CONF. REP. NO. 97-835, at 29 (1982), *reprinted in* 1982 U.S.C.A.N. 2860, 2870. Explaining this wording, the House Conference Committee Report provided:

The secretary will base his determination as to whether or not to grant the permit, in part, by using the same standard as found in section 7(a)(2) of the Act, as defined by interior department regulations, that is, whether the taking will appreciably reduce the likelihood of the survival and recovery of the species in the wild. Use of the regulatory language adopted by the Secretary of the Interior to implement section 7(a)(2) rather than the language of the provision itself eliminates the implication that other permits issued under section 10 do not require consultation and biological opinions issued pursuant to section 7.

Id. See *infra* text accompanying note 58 (or the definition of jeopardy in effect in 1982); see also *infra* notes 69-78 and accompanying text for a discussion of potential differences in the definition of jeopardy in the 1982 section 7 regulations – which Congress used to write section 10 – and the jeopardy definition as modified in 1986.

49. See 50 C.F.R. § 402.14.

the ecosystems they inhabit.⁵⁰ Is the jeopardy standard also up to this task?

III. DEFINITION AND EVOLUTION OF THE JEOPARDY STANDARD

What exactly does it mean to “jeopardize the continued existence of” a listed species? The ESA itself does not provide an answer; Congress chose not to define jeopardy in the statute. Nevertheless, at first blush this concept seems relatively straightforward. Jeopardy occurs when impacts on a listed species become too great, a call made by expert biologists. But how much risk to the existence of a threatened or endangered species is too much? And what about the ESA’s goal of *recovering* listed species and their ecosystems? Does the jeopardy standard provide protections for species’ recovery or for their habitat?

This section addresses these questions by exploring implementation of the ESA’s notion of “jeopardy,” beginning with a discussion of how the Services’ interpretation of this term has evolved over time. This section scrutinizes in particular the role of species recovery within the jeopardy standard, as well as looks at the factors that go into agency assessments of whether given impacts meet the Services’ jeopardy definition. Finally, it concludes by analyzing how courts have treated the jeopardy standard.

A. *Evolution of the Jeopardy Standard*

Particularly given the Supreme Court’s emphasis on interpreting literally the ESA’s language,⁵¹ the wording of the phrase itself provides a starting point for assessing the precise meaning of “jeopardize the continued existence” of listed species. The ordinary meaning of “jeopardize” carries little ambiguity; the word means to imperil or expose to danger.⁵² However, what does it mean to imperil the “continued existence” of listed species? On one hand, one could interpret this phrase to preclude only activities that *add* to the risks faced by these species. If an action pushes a species at least some degree closer to extinction, that action clearly would render less likely the species’ existence over time. Under this view, the implicit assumption is that the species will continue to exist over time unless additional threats or

50. See 16 U.S.C. § 1531(b). The ESA defines “conservation” to mean actions necessary to get listed species to the point at which protection under the ESA is no longer necessary, which in turn comprises the regulatory definition of “recovery.” See *id.* § 1532(3); 50 C.F.R. § 402.02. Conservation and recovery are thus virtually synonymous under the ESA.

51. In *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 173 (1978), the Court emphasized a literal reading of section 7’s prohibitions (“One would be hard pressed to find a statutory provision whose terms were any plainer . . .”); in *Bennett v. Spear*, 520 U.S. 154, 173 (1997), the Court likewise emphasized the importance of reading literally the statute’s language (citing the “cardinal principle of statutory construction” to give effect to every clause and word of a statute).

52. WEBSTER’S THIRD INTERNATIONAL DICTIONARY 1213 (1986).

impacts push it closer to extinction.⁵³ Thus, actions that do not increase present risks to the species would not jeopardize that species. Even actions that did increase these risks could be interpreted as not necessarily not jeopardizing the species, depending on how much of an increased risk of extinction they created.

On the other hand, by definition listed species *already* face serious threats to their continued existence, additional potential impacts notwithstanding. Again by definition, these threats persist for a given species until over time its status improves to the point at which the Secretary changes it from its classification as threatened or endangered. In this light, an increase in present risks to the species' very existence would not be the only possible trigger for a jeopardy determination. One could also reasonably interpret an action to jeopardize the continued existence of a listed species if the action precluded or even merely impaired the species' chances for eventual recovery. Put another way, threatened and endangered species' continued existence is in doubt as long as they are listed; therefore, impacts that foreclose or undermine a species' chances of recovery perpetuate its at-risk status and thus jeopardize its continued existence.

Under either interpretation of the literal meaning of "jeopardize the continued existence of," the wording of the statute provides no indication of the magnitude of additional risk of extinction or degree of impact on likelihood of recovery that an action must pose in order to constitute jeopardy to the species. Congress provided little guidance as to how much risk to listed species is too much.⁵⁴

The ESA's surprisingly slim legislative history discussing jeopardy sheds only dim light on lawmakers' intentions as to the meaning of this term. In remarks on the House floor, Representative John Dingell, one of the architects of the statute, noted the precarious status of grizzly bears in the contiguous states. Mr. Dingell asserted:

Once this bill is enacted, the appropriate Secretary, whether of Interior, Agriculture, or whatever, will have to take action to see that this situation is not permitted to worsen, and that these bears are not driven to extinction. The purposes of the bill include the conservation of the species and of the ecosystems upon which they depend, and every agency of Government is committed to see that these purposes are carried out [T]he agencies of Government can no longer plead that they can do nothing about it. They can, and they must. The law is clear.⁵⁵

Unfortunately, however, Representative Dingell's remarks are not entirely clear. In asserting that section 7 would require federal agencies

53. Such an assumption, however, may not comport with current biological knowledge. See *infra* note 157 and accompanying text.

54. See *supra* III.

55. 119 CONG. REC. 42913 (1973).

to advance the conservation purposes of the statute, Representative Dingell did not specify whether he was referring only to the affirmative conservation mandate of that section or its prohibitions as well.⁵⁶

The House committee report accompanying the ESA in 1973 also mentioned grizzlies. After noting section 7's conservation mandate as well as its prohibitions against jeopardy and critical habitat destruction, the report provided:

Under the authority of this paragraph, for example, the Director of the Park Service would be required to conform the practices of his agency to the need for protecting the rapidly dwindling stock of grizzly bears within Yellowstone Park. These bears . . . should at least be protected by supplying them with carcasses from excess elk within the park, by curtailing the destruction of habitat by clearcutting National Forests surrounding the Park, and by preventing hunting until their numbers have recovered sufficiently to withstand these pressures.⁵⁷

While this passage also does not differentiate between section 7's affirmative mandate and its prohibitions in defining federal agencies' obligations, it clearly envisions that agencies would do more than merely avoid causing additional threats to listed species. At the least, this indicates that lawmakers took quite seriously the statute's conservation purposes.⁵⁸ It also seems to imply that section 7's prohibitions have a role to play in achieving these purposes.

The Services' first publication interpreting section 7 also emphasized the ESA's conservation thrust. In a 1975 Federal Register Notice discussing section 7's critical habitat provision, the agencies also provided some clues as to their overall interpretation of section 7. FWS and NMFS asserted that the Act "is intended to prevent the further decline, and to bring about the restoration, of Endangered and Threatened species and of the habitat upon which such species depend."⁵⁹ The Services also proclaimed that impacts on a listed species' critical habitat would run afoul of section 7's prohibition on destruction or adverse modification if they placed species in "further jeopardy, or restrict the potential and reasonable expansion or recovery of that species"⁶⁰ This language, particularly the agency's characterization of agency actions placing listed species in "*further* jeopardy," suggests that FWS and NMFS saw listed species as facing

56. Five years later, however, the U.S. Supreme Court cited these remarks in its opinion in *Tennessee Valley Auth. v. Hill*, 437 U.S. at 183-84, a case that interpreted section 7's jeopardy standard.

57. H. R. CONF. REP. NO. 93-412, at 14 (1973).

58. Even if one assumed that this passage does not indicate that the jeopardy standard provides protections for species' recovery, it at least indicates little support for FWS' and NMFS' narrow interpretation of section 7(a)(1)'s conservation mandate, discussed *supra* notes 7-10 and accompanying text.

59. Endangered and Threatened Species, Notice on Critical Habitat Areas, 40 Fed. Reg. 17764 (Apr. 17, 1975).

60. *Id.* at 17765.

some degree of “jeopardy” by the mere fact that they were in poor enough condition to warrant classification as threatened or endangered. This notice is thus consistent with an interpretation of the jeopardy standard holding that impacts to recovery of already imperiled species could trigger a jeopardy finding.

It was not until three years after this publication that FWS and NMFS provided actual regulatory guidance on the meaning of jeopardy. In 1978, the Services issued joint regulations interpreting section 7.⁶¹ These regulations – which preceded the major amendments to this section following the Supreme Court’s decision in *Tennessee Valley Authority v. Hill*⁶² defined jeopardy as follows:

‘Jeopardize the continued existence of’ means to engage in an activity or program which reasonably would be expected to reduce the reproduction, numbers or distribution of a listed species to such an extent as to appreciably reduce the likelihood of the survival and recovery of that species in the wild. The level of reduction necessary to constitute ‘jeopardy’ would be expected to vary among listed species.⁶³

Despite the jeopardy standard’s status as one of the centerpieces of section 7, little controversy or even discussion appears to have accompanied FWS’ and NMFS’ first formal definition of jeopardy. The two agencies offered virtually no explanation of this definition in the preambles to both their proposed and final rulemakings.⁶⁴ In its response to comments on the draft regulations, the Services noted that several federal agencies and other entities suggested that the proposed regulations’ definitions “be expanded and made more specific.”⁶⁵ However, FWS and NMFS declined this request, asserting that “[d]efinitions concerning jeopardy and the adverse modification or destruction of critical habitat must be flexible enough to deal with every possible consultation situation Overly specific and narrow definitions of these concepts would ultimately operate to the disadvantage of listed species by excluding them from coverage in unique

61. See Interagency Cooperation - Endangered Species Act of 1973, 43 Fed. Reg. 870, 875 (Jan. 4, 1978), codified at 50 C.F.R. § 402. FWS’s and NMFS’ efforts to provide other federal agencies with guidance as to their responsibilities under section 7 began two years prior to finalizing the joint section 7 regulations; the Services in 1976 issued “guidelines” describing federal agencies’ duties under this section. See 42 Fed. Reg. 1868 (1977).

62. *Tennessee Valley Auth. v. Hill*, 437 U.S. 153 (1978). The Supreme Court’s holding, which emphasized that jeopardy to listed species and destruction of critical habitat are absolute barriers to federal action by stopping a nearly completed \$100 million dam for the benefit of an obscure species of minnow, vaulted the unyielding nature of the jeopardy standard into national prominence. The ESA as a result was vociferously criticized by some members of the public as well as some in Congress. While lawmakers amended the statute in response to this decision by adding the exemption process mentioned *supra* note 4, Congress did not modify the jeopardy standard itself.

63. 50 C.F.R. § 402.02 (1978).

64. See 42 Fed. Reg. 1868 (1977); Interagency Cooperation - Endangered Species Act of 1973, 43 Fed. Reg. 870 (Jan. 4, 1978).

65. Interagency Cooperation - Endangered Species Act of 1973, 43 Fed. Reg. at 873.

situations.”⁶⁶ The final definition of jeopardy thus was identical to the language set forth in the agencies’ initial proposal.

The 1978 regulatory definition of jeopardy, while undoubtedly “flexible,” did little to shed light on the types of impacts to listed species prohibited by section 7. The definition centered around whether activities would appreciably reduce a species “survival and recovery.” The agencies nowhere provided additional information about their notion of “survival,” but the 1978 regulations defined “recovery” as “improvement in the status of listed species to the point at which listing is no longer required.”⁶⁷ Yet despite the first jeopardy definition’s explicit mention of recovery, ambiguity still remained as to how impacts to species’ chances for recovery figured into jeopardy determinations.

At one level, it appears that FWS and NMFS viewed impacts to species recovery as an important element of a jeopardy determination. The agencies’ explicit mention of recovery as well as survival within their jeopardy definition supports two related inferences. First, the Services apparently perceived a difference between these two concepts; if the agencies believed survival and recovery were synonymous, or that the latter was merely a subset of the former, inclusion of both terms in the jeopardy definition would have rendered the regulatory language redundant.⁶⁸ Additionally, FWS and NMFS seemingly intended that jeopardy analyses should consider how a proposed agency action would affect a species’ chances of survival as well as its chances for recovery. Such views would have been logical in light of FWS’ emphasis of the ESA’s recovery purposes in its 1975 critical habitat publication.

Confusingly, however, the 1978 regulations’ language also could be interpreted to point in the opposite direction from these conclusions. The agencies defined jeopardy as a reduction in species’ “survival *and* recovery.” By phrasing these terms conjunctively, the agencies may have implied that impacts to only *one* of these factors would provide an insufficient basis for a jeopardy conclusion. It is possible that an action could impair a species’ chances of recovery without necessarily threatening its bare survival. The converse is not true, however, since an action that adversely affects a species’ chances for survival obviously also reduces its ability to recover. In this light, the word “recovery” is superfluous in a conjunctive phrasing of “sur-

66. *Id.*

67. *Id.* at 875 (codified at 50 C.F.R. §402.02). The current regulations contain a nearly identical definition of recovery. See 50 C.F.R. §402.02.

68. This is consistent with a plain meaning approach to these terms, since a species may be able to survive for at least some period of time without any improvement in its conservation status.

vival and recovery.” In other words, one could read the new regulations to mean that adverse impacts to a species’ chances for recovery, standing alone, could not result in a jeopardy finding; such a finding would be possible only if an agency action reduced the likelihood of a species’ survival, thus also reducing its likelihood of recovery as well.

The regulatory definition of jeopardy codified in 1978 thus created a semantic conundrum. FWS and NMFS included the term recovery in the definition, a move consistent with the Services’ earlier emphasis on the conservation goals of section 7, as well as their recognition that threatened and endangered species are by definition already facing some degree of jeopardy to their existence. On the other hand, a literal reading of the definition’s conjunctive phrasing makes the word “recovery” superfluous. It is not clear which reading FWS actually intended.

When the Reagan Administration took over implementation of the ESA in 1981, it wasted little time in addressing head-on the ambiguity over recovery’s role in jeopardy determinations. In a memorandum sent to all FWS regional officials in 1981, the agency interpreted literally the conjunctive phrasing of “survival and recovery.” This interpretation “introduced the concept that to achieve jeopardy an action would have to appreciably reduce the likelihood of the survival *and* recovery of a species in the wild. This means that an action that merely threatens recovery but does not threaten the survival of the entire listed species or population does not warrant a jeopardy opinion.”⁶⁹

In addition to marking the point at which the Services provided for the first time in writing a clear interpretation of recovery’s place in the jeopardy standard, FWS’ description of the 1981 memo is significant in that it suggests the this memo modified the status quo interpretation of jeopardy. FWS described the 1981 memo as having “introduced the concept” that impacts on a species’ recovery alone were insufficient to result in a jeopardy determination. This characterization indicates that prior to 1981 the Services had interpreted the jeopardy standard to protect listed species’ recovery in addition to preventing “appreciable” reductions in their survival. The notion that 1981 marked a turning point in the Services’ views about the role of recovery within the jeopardy standard also draws support from the fact that prior to this date FWS and NMFS prominently mentioned the ESA’s conservation goals when the agencies discussed jeopardy,

69. The quoted language describing the “introduction” of the idea that impacts to survival as well as recovery are necessary for a jeopardy finding comes from a later memo describing the 1981 document. See Memorandum from Associate Director, U.S. Fish & Wildlife Serv., to Regional Directors, U.S. Fish & Wildlife Serv. (Mar. 3, 1986) (emphasis in original) (author was unable to obtain the actual 1981 memo).

whereas after 1981 they went out of their way to distinguish the jeopardy standard from conservation.

When FWS and NMFS proposed to revise their joint section 7 regulations in 1983, the agencies included a subtle modification to the 1978 definition of jeopardy in order to codify the Reagan Administration's restrictive interpretation of this term. By proposing to place the word "both" in front of the existing regulations' phrase "survival and recovery" within the definition of jeopardy, the agencies emphasized that an impact on recovery alone would be insufficient to justify a jeopardy finding.⁷⁰

This interpretation of the jeopardy standard was roundly criticized by several parties commenting on the proposed regulations, who characterized the Services' position as inconsistent with the ESA's focus on "conservation" of listed species.⁷¹ Commenters also argued that issuance of a "no jeopardy" biological opinion for an action that adversely affected species recovery would violate the conservation mandates of section 7(a)(1).⁷² FWS and NMFS dismissed these objections in the preamble to their final rule, asserting that "there can be no doubt that Congress considered the jeopardy standard of section 7(a)(2) as being the substantive cornerstone of section 7."⁷³ The Services went on to argue that conservation was not the crucial element of section 7(a)(2), asserting that "[t]he 'continued existence' of the species is the key to the jeopardy standard, placing an emphasis on injury to a species 'survival.'"⁷⁴ The Services thus finalized the modified definition of jeopardy they had proposed three years earlier.⁷⁵

70. The preamble to the proposed regulations explained that "[a]ctions that adversely affect the survival of the species also will adversely affect the recovery of the species. Actions can adversely affect the recovery of the species but not necessarily affect the species' survival. Thus a no jeopardy opinion would be issued if a given action would not adversely affect the survival of a listed species although it may affect the species' recovery." Interagency Cooperation; Endangered Species Act of 1973, 48 Fed. Reg. 29990, 29992 (June 29, 1983). The Services proposed to redefine jeopardy as follows:

'Jeopardize the continued existence of' means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

Id. at 29999. The agencies adopted this definition as proposed in their final regulations in 1986. It is currently codified at 50 C.F.R. § 402.02.

71. See Interagency Cooperation - Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19926, 19934 (June 3, 1986). These commentators asked that the Services abandon the conjunctive phrasing of survival and recovery within the definition of jeopardy and instead define jeopardy to include appreciable reductions in the survival *or* recovery of listed species. *Id.*

72. *Id.*

73. *Id.* The agencies supported this assertion by quoting the following passage from the 1979 ESA amendments:

The term "is likely to jeopardize" is used because the fundamental obligation of section 7(a) of the act is that Federal agencies insure their actions do not jeopardize the continued existence of an endangered or threatened species.

S. REP. NO. 96-151, at 4 (1979) (emphasis added).

74. *Id.*

75. See *supra* note 70.

Despite FWS' and NMFS' interpretation of jeopardy as excluding consideration of impacts to species' recovery, the agencies included two provisions in the preamble to the final regulations in which they seem to backpedal slightly from this hard-line position. First, the agencies reacted favorably to comments on the proposed rules suggesting that the Services define the term "survival" as "retention of a sufficient number of individuals and/or populations with necessary habitat to insure that the species will keep its integrity in the face of genetic recombination and known environmental fluctuations."⁷⁶ FWS and NMFS maintained that they "agree[] with the criteria set out in the above definition," though they declined to write it into the section 7 regulations "because this concept varies widely among listed species."⁷⁷ Additionally, in a curiously worded caveat to the agencies' rejection of recovery as a stand-alone component of a jeopardy analysis, the Services specified that "significant impairment of recovery efforts or other adverse effects which rise to the level of 'jeopardizing' the 'continued existence' of a listed species can also be the basis for issuing a 'jeopardy' opinion. The Service acknowledges that, in many cases, the extreme threats faced by some listed species will make the difference between injury to 'survival' and to 'recovery' virtually zero."⁷⁸

It is difficult to discern whether FWS and NMFS intended these two oddly phrased discussions to indicate a softening of their interpretation of the jeopardy standard, or whether the agencies were simply attempting to dismiss commenters' concerns without providing additional fodder for criticism from environmental interests. However, close examination of the Services' action and wording indicates that the latter view may be the most plausible. The broad definition of "survival" that the agencies referenced favorably bears a striking resemblance to a description of a population well on its way toward recovery. Nevertheless, the fact that the Services did not actually add this definition to the section 7 regulations leaves them with discretion to interpret the term "survival" in almost any manner they see fit. Similarly, while FWS and NMFS appeared to suggest that "significant impairment" of a species' chances of recovery could justify a jeopardy finding, a careful reading of the language employed by the agencies does not support such an inference. The agencies qualified their assertion by noting that only impacts to recovery, "which rise to the level of 'jeopardizing' the 'continued existence' of a listed species" would support a jeopardy finding. Though it contains the word recov-

76. Interagency Cooperation - - Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. at 19934.

77. *Id.*

78. *Id.*

ery, this assertion simply restates the definition of jeopardy – a definition written expressly to *exclude* impacts on recovery from jeopardy calculations.

Finally, the Services' observation that it makes little sense to attempt to separate impacts to "survival" from impacts to "recovery" for species particularly close to extinction actually creates more ambiguity than it resolves. It is undoubtedly true that at some point near extinction species likely cannot withstand any additional incremental adverse impacts, making it academic to attempt to distinguish effects on survival from effects on recovery. However, this merely highlights the fact that, for species *not* facing "extreme threats" to their existence, FWS and NMFS never explained the difference between "survival" and "recovery" under their interpretation of the jeopardy standard that accompanied the 1986 rulemaking.

It took the Services over a decade to finally address this issue. In 1998, FWS and NMFS issued a joint Consultation Handbook that discusses in detail the agencies' interpretations of the substantive and procedural requirements of section 7 and its implementing regulations.⁷⁹ Reversing course from 1986, the agencies included in the Consultation Handbook a definition of "survival." In short, it provides that "survival is the condition in which a species continues to exist into the future while retaining *the potential* for recovery."⁸⁰ While still leaving some possible ambiguities, this characterization of "survival" takes a significant step toward filling in questions about the role of recovery in jeopardy analyses. Since the Consultation Handbook says nothing about how far into the future one must look in assessing species survival, it clearly would be possible – at least from a legal perspective – for an action to adversely affect a species' current chances for recovery without going so far as to eliminate the possibility that

79. U.S. FISH & WILDLIFE SERV., ENDANGERED SPECIES ACT CONSULTATION HANDBOOK: PROCEDURES FOR CONDUCTING SECTION 7 CONSULTATIONS AND CONFERENCES, (1998), *available at* <http://endangered.fws.gov/consultations/s7hndbk/s7hndbk.htm> [hereinafter CONSULTATION HANDBOOK]. The agencies did not formally notify the public of the Handbook's availability until the following year. See Notice of Availability of Final Endangered Species Consultation Handbook for Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act, 64 Fed. Reg. 31285 (June 10, 1999).

80. CONSULTATION HANDBOOK, *supra* note 79, at 4-35 (emphasis added). The full definition provides that "survival" means:

[T]he species' persistence, as listed or as a recovery unit, beyond the conditions leading to its endangerment, with sufficient resilience to allow recovery from endangerment. Said another way, survival is the condition in which a species continues to exist into the future while retaining the potential for recovery. This condition is characterized by a species with a sufficiently large population, represented by all necessary age classes, genetic heterogeneity, and number of sexually mature individuals producing viable offspring, which exists in an environment providing all requirements for completion of the species' entire life cycle, including reproduction, sustenance, and shelter.

Id.

the species could still recover at some point in the future.⁸¹ From this perspective, even “significant impairment” of a species’ chances for recovery would not necessarily support a jeopardy finding. Accordingly, a literal reading of the Consultation Handbook’s survival definition suggests that actions may, without constituting jeopardy, adversely affect the present chances that a listed species will recover — so long as those actions do not go so far as to preclude the species’ ability to recover at some undetermined future point.

The Services have adopted an overall policy on approval of HCPs and accompanying incidental take permits, which is also consistent with an interpretation of jeopardy that makes recovery all but irrelevant. In their Habitat Conservation Planning Handbook, FWS and NMFS characterize as “essentially identical” section 7’s jeopardy standard and section 10’s requirement that grants of incidental take permits not appreciably reduce the likelihood of survival and recovery of listed species.⁸² The agencies thus conclude that neither section 7 nor section 10 require that HCPs contribute to the recovery of listed species.⁸³

Recently, however, a revolution in interpreting jeopardy appears to have begun. In stark contrast to the trend toward interpreting impacts on species recovery as essentially irrelevant under the jeopardy standard, over the past two years NMFS has moved toward incorporating protections for recovery into its jeopardy analyses for at least some listed species. In 1999, NMFS’ Northwest Region released a document explaining how the agency would carry out section 7 consultations on projects affecting listed Pacific salmonids.⁸⁴ Discussing how to apply the regulatory definition of jeopardy, NMFS asserts the following position:

Impeding a species’ progress toward recovery exposes it to additional risk, and so reduces its likelihood of survival. Therefore, for an action to not “appreciably reduce” the likelihood of survival, it must not prevent *or appreciably delay* recovery [A]vailable scientific information concerning habitat processes and salmon population viability indicates no practical differences exist between degree of function essential for long-term survival and that necessary to achieve recovery.⁸⁵

81. Again, this view implicitly assumes that listed species can persist for possibly extended periods of time at depressed population levels, an assumption not necessarily supported by biological reality. See *infra* note 157 and accompanying text.

82. U.S. FISH & WILDLIFE SERV., HABITAT CONSERVATION PLANNING HANDBOOK 3-20 (1996), available at <http://endangered.fws.gov/hcp/hcpbook.htm>.

83. See *id.* available at <http://endangered.fws.gov/hcp/hcpbook.htm>.

84. NAT’L MARINE FISHERIES SERV., THE HABITAT APPROACH: IMPLEMENTATION OF SECTION 7 OF THE ENDANGERED SPECIES ACT FOR ACTIONS AFFECTING THE HABITAT OF PACIFIC ANADROMOUS SALMONIDS (1999) (on file with author) [hereinafter HABITAT APPROACH].

85. *Id.* at 3 (emphasis added and footnote omitted). This position echoes the assertions set forth in two NMFS memoranda in 1997. See Memorandum from William Stelle, Jr., F/NWR, to Hilda Diaz-Soltero, F/PR, Discussions on Survival and Recovery Standards Under the Endan-

In three sentences, this policy paper effectively wipes away at least twenty years of section 7 history. Since 1981, the Services have clearly made efforts to distinguish between a species' ability to survive – meaning persist at some point above extinction, albeit in a threatened or endangered state – from its recovery, meaning trending toward significant improvement and ultimately delisting. By stressing that jeopardy only occurred when an action appreciably reduced *both* survival and recovery, the Services clearly meant to imply that actions could proceed under the jeopardy standard even though they impaired recovery. This interpretation, however, never incorporated any consideration of a time element. NMFS, on the other hand, by equating a species' ability to survive *over long periods of time* with the concept of recovery, essentially eliminated the distinction between the terms “survival” and “recovery” within the regulatory definition of jeopardy. In so doing, NMFS moved its consideration of jeopardy for Pacific salmon away from analyses geared principally toward survival and instead to assessments geared principally toward recovery.

At the present time, NMFS' jeopardy assessment policy for Pacific salmonids appears to apply only to those species. However, since salmon and steelhead runs listed as threatened or endangered inhabit many watersheds from northern Washington through southern California, NMFS' interpretation of jeopardy for consultations involving salmonids affects a significant portion of the section 7 consultations the agency performs, as well as the Habitat Conservation Plans it considers.⁸⁶ So far, however, FWS has showed no signs of adopting an interpretation of jeopardy similar to that of its sister agency; in its present day to day implementation of the jeopardy standard, FWS virtually never applies explicit protections for species recovery in implementing the jeopardy standard.⁸⁷

gered Species Act (Dec. 24, 1997) (on file with author); Memorandum from Robin Waples, F/NWC1, to The Record, Habitat Conservation Plan Language (Dec. 1, 1997) (on file with author).

86. NMFS has also indicated that it will require protections for “long term survival” of salmonids, which the agency equates with salmon recovery, in Habitat Conservation Plans and incidental take permits it approves. See Letter from William T. Hogarth, Acting Regional Administrator, to David Dunn, dated November 25, 1997 (copy on file with author). For a comprehensive catalog of the numerous salmon and steelhead listings on the west coast, some affecting huge watersheds such as the Columbia/Snake River system, see NAT'L MARINE FISHERIES SERV.: NOAA FISHERIES, ENDANGERED SPECIES ACT: STATUS REVIEWS AND LISTING INFORMATION, available at <http://www.nwr.noaa.gov/1salmon/salmesa/index.htm>.

87. This is not to say, however, that FWS does not at least on occasion consider recovery in implementing the jeopardy standard. Indeed, in most cases FWS assiduously attempts to avoid language in biological opinions that hints of any effort to separate out impacts to species recovery from impacts to their bare survival. This is of course ironic given the agency's efforts to separate survival from recovery in defining jeopardy. Nonetheless, given FWS's shortcomings in describing standards in any biologically meaningful fashion, discussed generally in section IV. C., *infra*, it is quite likely that FWS can and has written biological opinions which implicitly take into account impacts on species' recovery alone in reaching conclusions about jeopardy.

B. *Other Factors Influencing Jeopardy Analyses*

Aside from the definition of jeopardy itself, there are a number of other factors that exert substantial – and sometimes determinative – influence over the Services’ jeopardy analyses. Most of these factors involve the processes employed by the Services to determine whether proposals comport with the jeopardy standard. As with the definition of jeopardy, these processes have evolved over time through a series of regulations and agency policies.

One of the most important factors in assessing the likelihood that an action will jeopardize listed species is the scope of the inquiry. Do FWS and NMFS make jeopardy/no jeopardy calls based on how a proposal affects listed species in the project area alone, considering how the project affects the species over an entire region, or based on how it affects the entire species? FWS apparently did not provide a clear policy on this question until 1979, when the FWS Director issued a memorandum asserting that “jeopardy opinions should be rendered only when the proposed activity/action/program, along with cumulative effects, will jeopardize the continued existence of the entire listed species or listed population.”⁸⁸ In other words, according to this FWS policy, even if a specific action has significant or even catastrophic impacts on a listed species within the particular area or region of the activity, the jeopardy standard can do nothing to stop or even modify the project unless that project is likely to jeopardize the continued existence of the entire species throughout its range.⁸⁹

FWS changed this policy a few years later by adding an exception. This action was prompted by the agency’s concern about employing jeopardy analyses only on a species-wide basis:

88. Though the author was unable to obtain a copy of the 1979 memorandum, a subsequent memo on this subject contains a verbatim quotation of the key paragraph of the 1979 document. See Memorandum, *supra* note 69, at 1.

89. As noted in the text accompanying notes 94-95 and subsequent paragraph, *infra*, this also describes the policy currently in effect. While the jeopardy standard in most cases thus does not provide a basis for the Services to require modifications to projects in order to reduce their impacts on listed species, the agencies often find that proposed actions are likely to incidentally take protected species. Though FWS and NMFS must provide an action agency with an “incidental take statement” authorizing such take so long as it does not jeopardize the species, section also provides that the Services must set forth “reasonable and prudent measures” to minimize incidental take, along with “terms and conditions” to ensure implementation of these measures. 16 U.S.C. § 1536(b)(4) (1999). FWS and NMFS thus have power to require modifications to individual projects that do not jeopardize a listed species as long as the action is likely to result in take. However, in the preamble to the 1986 regulations, the Services take the position that Congress intended actions to proceed “essentially as planned” if they do not jeopardize listed species. Interagency Cooperation - Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19926, 19937 (June 3, 1986). Accordingly, these agencies specified that reasonable and prudent measures “should be minor changes that do not alter the basic design, location, duration, or timing of the action.” *Id.* This so-called “minor change rule” is often a point of contention in the consultation process since the rarity of jeopardy findings renders FWS’ and NMFS’ power to impose measures to minimize incidental take virtually the sole source of these agencies’ regulatory authority over the majority of federal activities that affect listed species.

[C]ertain wide-ranging species . . . could face sustained loss of individuals or habitat through actions that do not warrant a jeopardy finding but which, nevertheless, could result in significant cumulative habitat and population losses. Thus, the impact of numerous such actions could accumulate until a jeopardy finding is warranted, but by that time habitat or population size could be reduced to the point where the species' status is much more precarious.⁹⁰

Consequently, FWS announced a "limited exception" to the species-wide scope of jeopardy analyses.⁹¹ Under this amended policy, FWS officials could assess jeopardy for "population segments" rather than the entire populations of certain listed species. However, species had to satisfy three criteria to qualify for this exception: 1) inhabit a wide range; 2) be "inadequately protected" by adherence to the species-wide scope for jeopardy analyses; and 3) the species is composed of "discrete population segments that can be dealt with separately when assessing the impact of a given Federal action."⁹² At the time it created this revised jeopardy policy, FWS determined that nine listed species qualified for such treatment.⁹³

In their joint Consultation Handbook, the Services again modified their approach to the scope of jeopardy analyses. The Handbook ended the FWS policy outlined above, but specified that FWS and NMFS would assess jeopardy to distinct population segments (DPS) – as that term is defined in the Services' joint DPS policy⁹⁴ – identified in a final listing rule or a NMFS recovery plan. Additionally, the Services can base jeopardy analyses on "recovery units" of a particular species so long as FWS or NMFS has made a determination that each such recovery unit is necessary to "both the survival and recovery" of the species.⁹⁵

Though purporting to continue to allow a narrower scope of jeopardy analyses for some species, the Consultation Handbook in effect eliminated this policy. Whereas previously FWS applied a narrower

90. Memorandum, *supra* note 69, at 2.

91. *Id.*

92. *Id.*

93. These species included bald eagles (with five discrete populations identified), peregrine falcons (four populations), grizzly bears (six populations), red-cockaded woodpeckers ("a number of isolated island populations"), brown pelicans (three populations), sea turtles (populations in U.S. waters), ocelots and jaguarundi (U.S. populations), and piping plovers (three populations).

94. The ESA defines "species" eligible for listing as threatened or endangered to include "distinct population segment[s] of vertebrate fish or wildlife which interbreeds when mature." 16 U.S.C. § 1532(15). The Services published their policy on what sorts of groupings qualify for listing as a distinct population segment in 1996. *See* Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996).

95. CONSULTATION HANDBOOK, *supra* note 79, at 4-36. Additionally, FWS or NMFS must have published a notice of availability in the Federal Register for the recovery plan identifying the recovery units. *Id.* The agencies may modify recovery plans published prior to 1998 to add recovery units and so long as they provide notice of availability of this change in the Federal Register. *Id.*

jeopardy analysis if assessing jeopardy on a species-wide basis “inadequately protected” a listed species, the revised approach requires that the Services determine a recovery unit to be necessary for “both the survival and recovery” of the species as a whole. The latter, of course, is the key substantive phrase from the regulatory definition of jeopardy. Accordingly, the Services may only identify as recovery units those segments of a species whose loss would jeopardize the continued existence of the *entire* species. As a result, the ability to assess jeopardy on the basis of recovery units alone does not give any additional protection to a listed species because an action that imperils a recovery unit of the species would also by definition jeopardize the entire species. Put another way, an action causing sufficient impacts to jeopardize the continued existence of a recovery unit as defined in the Consultation Handbook would also jeopardize the species as a whole, making a jeopardy analysis by recovery unit essentially the same as a jeopardy assessment based on the entire species.

Another crucial question about the jeopardy standard also centers on the breadth of the Services’ section 7 analysis: Are impacts to habitat of a listed species *outside* the current range of the species relevant to a jeopardy determination? This issue has obvious implications for species recovery. The jeopardy standard would advance efforts to recover listed species to the extent that it protects habitat into which the species can later expand its range. On the other hand, species’ recovery prospects could suffer if section 7’s jeopardy prohibition does not prevent degradation of habitat needed for a species’ future growth.

The Services did not expressly address this question in policy documents until 1998, and then only indirectly. The Consultation Handbook provides that “[i]ndependent analyses are made for jeopardy when the species is present or potentially present, and for adverse modification when designated critical habitat is affected.”⁹⁶ This provision clearly implies that the Services do not apply jeopardy analyses in instances where the action under consideration does not affect members of a listed species or habitat presently or “potentially” inhabited by the species.⁹⁷ A notice issued by FWS in 1999 supports this interpretation; there, in distinguishing between section 7’s jeopardy

96. *Id.* at 4-34.

97. It is unclear precisely what FWS and NMFS mean by habitat “potentially” inhabited by listed species, but given the agencies’ reluctance to apply the jeopardy standard to unoccupied habitat, “potentially” occupied habitat likely refers to habitat for which the Services have reason to believe is presently used by the species, or habitat that the species uses seasonally or occasionally during its life cycle. In a case where NMFS did in fact consult on an activity outside of currently occupied habitat, the agency justified its no jeopardy determination solely on the fact that the project took place in unoccupied habitat. See *Idaho Rivers United v. NMFS*, No. C94-1576R, 1995 WL 877502, *8 (W.D. Wash. 1995) (NMFS concluded that the proposed mine was not likely to jeopardize the continued existence of listed Snake River salmon “because Panther

standard and its ban on destroying or adversely modifying critical habitat, FWS asserted that the only instances in which the latter provided any protections beyond the jeopardy standard occur when an action undergoing consultation affects unoccupied critical habitat. In these limited cases, FWS continued, there is no duplication between the jeopardy and adverse modification standards because the unoccupied critical habitat is otherwise not included in a section 7 analysis.⁹⁸ The bottom line, therefore, is that the Services do not even engage in a jeopardy analysis unless an action affects habitat actually occupied at some point by a listed species.⁹⁹

In addition to questions relating to the scope of a jeopardy analysis, a key issue in applying the jeopardy standard is how the Services should take into account past, present, and future impacts that together will affect the species. This question first arose in the late 1970s. Spurred by questions arising in section 7 consultation involving a dam on the Platte River that affected whooping cranes,¹⁰⁰ FWS sought legal advice on how it should consider in its jeopardy analysis for the dam the effects on cranes from activities other than the dam. In an opinion released in 1978, the Interior Solicitor concluded that “the focus of section 7 consultation should not be limited to the individual impacts of the activity under review. Rather, consultation should also look at the cumulative impacts of all similar projects in the area.”¹⁰¹ Noting that the ESA did not provide guidance on what constituted cumulative impacts, the Solicitor borrowed from National Environmental Policy Act (NEPA) caselaw to advise that FWS employ a “rule of reason” test to determine what impacts were likely to take

Creek currently is unable successfully to support any salmon that might return to the area due to the toxic levels of copper in the water caused by leachate from Blackbird Mine”).

98. See Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31871, 31872 (June 14, 1999).

99. The Services imply in their Consultation Handbook’s definition of “unoccupied habitat” (CONSULTATION HANDBOOK, *supra* note 79, at 4-35) as well as in the Federal Register notice mentioned *supra* note 95 that section 7’s prohibition on destroying or adversely modifying critical habitat would extend section 7 protections to habitat designated as critical even though outside the current range of a listed species. However, under the present regulatory definition of “destroy or adversely modify,” FWS or NMFS could not ever find that impacts on non-occupied critical habitat ran afoul of section 7’s prohibition on destroying or adversely modifying this habitat. This results because the Services must find that an action affecting critical habitat impairs *both* the survival and recovery of a listed species in order to violate section 7. See Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39129, 39131 (July 22, 1997). If unoccupied habitat is designated as critical due to its importance for recovery alone, impairment of this habitat would not adversely affect a species’ survival as well, and thus would not trigger an adverse modification finding. On the other hand, if impacts on unoccupied habitat could affect both the survival and recovery of a listed species, there is no reason to exclude unoccupied habitat from jeopardy analyses since impacts to “both survival and recovery” are precisely the consequences the jeopardy standard seeks to preclude.

100. This project, the Grayrocks Dam on the Platte River, is one of the few projects to have been considered by (and received a limited exemption from) the Endangered Species Committee, or “God Squad.” See Comment, *The 1978 Amendments to the Endangered Species Act: Evaluating the New Exemption Process Under § 7*, 9 ENVTL. L. REP. 10031 (1979).

101. 85 Interior Decision 275, 276 (1978).

place and thus the agency should consider in its jeopardy analysis.¹⁰² Though it did not specifically address the issue, the Solicitor's Opinion implied that actions of federal agencies as well as non-federal entities fell within its use of the term cumulative effects.

At the beginning of the Reagan Administration, another opinion from the Interior Solicitor's office reversed course. In assessing the likelihood that a federal proposal was likely to jeopardize listed species, the Solicitor concluded that FWS must also consider only a limited number of other impacts to the species. Distinguishing NEPA requirements from those of the ESA, the opinion narrowly defined cumulative effects for purposes of section 7 consultation as only those future actions of non-federal entities that were "reasonably certain" to occur.¹⁰³ Additionally, the Solicitor advised that FWS should not consider in jeopardy analyses on a specific federal project the impacts of other federal actions that had not yet been the subject of a section 7 consultation.¹⁰⁴ In other words, in consulting on a proposed timber sale, FWS should analyze the likelihood of jeopardy to listed species in the area without taking into account additional timber sales in the area planned by the agency, but that have not yet been the subject of section 7 consultation. The Solicitor noted that this procedure establishes a "'first-in-time, first-in-right' process whereby the authorization of federal projects may proceed until it is determined that further actions are likely to jeopardize the continued existence of a listed species"¹⁰⁵ Finally, the opinion coined the term "environmental baseline" to describe the starting point for a jeopardy analysis, meaning the status of a species and its habitat in the area of a proposed action in light of current conditions affecting the species, as well as taking into account impacts likely to result from federal actions already approved through prior section 7 consultations.¹⁰⁶ The space

102. *Id.* at 278-79.

103. 88 Interior Decision 903, 908 (1981). The opinion described non-federal actions as reasonably certain to occur if:

[T]he action requires the approval of a state or local resource or land use control agency and such agencies have approved the action, and the project is ready to proceed. Other indicators which may also support such a determination include whether the project sponsors provide assurance that the action will proceed, whether contracting has been initiated, whether there is obligated venture capital, or whether State or local planning agencies indicate that grant of authority for the action is imminent. These indicators must show more than the possibility that the non-federal project will occur; they must demonstrate with reasonable certainty that it will occur. The more that state or local administrative discretion remains to be exercised before a proposed state or private action can proceed, the less there is reasonable certainty that the project will be authorized. In summary, the consultation team should consider only those state or private projects which satisfy all major land use requirements and which appear to be economically viable.

Id.

104. *Id.* at 907.

105. *Id.* at 905.

106. *Id.* at 907.

between this “baseline” and the point at which additional impacts to the species would result in jeopardy was termed by the Solicitor as the “‘cushion’ of remaining natural resources which is available for allocation to projects until the utilization is such that any future use may be likely to jeopardize a listed species”¹⁰⁷

The jeopardy assessment process described by the 1981 Solicitor’s Opinion remains in effect. When they enacted their joint consultation regulations in 1986, the Services codified almost word for word the key definitions and concepts in this opinion.¹⁰⁸ Adding this process into the regulations was consistent with the agencies’ move in the 1986 regulations to effectively eliminate recovery as a significant component of jeopardy analyses; the Solicitor clearly left little room for recovery within the section 7(a)(2) process by characterizing the “cushion” between a species’ current status and the point at which it faces jeopardy as something “available for allocation” to additional federal projects impacting the species.

The efficacy of the current regulations’ analytical process for assessing jeopardy depends in part on the Services’ ability to accurately determine the “environmental baseline,” i.e., the current status of a species. Toward that end, the Consultation Handbook directs the Services to maintain systems for “tracking collective effects on species and their habitats.”¹⁰⁹ This requirement emphasizes maintaining data on incidental take, which the Handbook deems important because such information “makes it easier to . . . determine when the level of incidental take approaches the likely *jeopardy/adverse modification thresholds*”¹¹⁰ Though the Handbook sets forth a detailed outline for FWS’ version of this data system, neither FWS nor NMFS appears to have developed an operational database for tracking incidental take or other information about baseline conditions.¹¹¹

In addition to the Consultation Handbook, FWS has developed a separate set of guidelines for “internal” section 7 consultations. Such consultations occur when FWS is the federal agency proposing an ac-

107. *Id.*

108. See 50 C.F.R. § 402.02 (2000) (definitions of “effects of the action” and “cumulative effects”). The Consultation Handbook also contains an extensive discussion of the jeopardy analysis process, including concepts such as environmental baseline, interrelated and interdependent actions, effects of the action, and cumulative effects. See CONSULTATION HANDBOOK, *supra* note 79, at 4-22 to 4-31.

109. CONSULTATION HANDBOOK, *supra* note 79, at 9-2.

110. *Id.*

111. The Handbook sets forth a lengthy list of data entries for the national computerized data system maintained by FWS called the Threatened and Endangered Species System (TESS). As currently configured, however, TESS contains only information about species’ listing status and designation of critical habitat. *Id.* at 9-3 to 9-5; see also U.S. FISH & WILDLIFE SERV., THREATENED AND ENDANGERED SPECIES SYSTEM (TESS), <http://ecos.fws.gov/webpage/>. The Handbook also refers to NMFS’ Protected Species Status and Tracking System (PSST), though there is no indication that this system contains a mechanism to separately track the type of data described in the Handbook.

tion that may affect a listed species, requiring the agency to consult with itself prior to taking action. Circumstances triggering internal consultations include instances where FWS acts as a typical action agency in carrying out its non-ESA statutory responsibilities, such as managing a wildlife refuge that harbors listed species. Additionally, FWS must complete internal consultation prior to issuing incidental take permits and related authorizations pursuant to section 10, since these actions clearly may affect listed species.¹¹² One of the key provisions of FWS' internal consultation guidelines is its procedures for attempting to insure that internal consultations are "as impartial as possible."¹¹³ These procedures suggest separation between the FWS program taking a proposed action and the group responsible for writing the biological opinion assessing the action, as well as specifies that the agency program taking a proposed action (presumably including issuing an incidental take permit) should not be the program providing technical assistance to an applicant.¹¹⁴

NMFS has no analogous policy or guidelines for encouraging impartiality when the agency must perform a jeopardy analysis of its own actions. However, the Services' joint Habitat Conservation Planning Handbook also contains a section encouraging impartial evaluation procedures for internal consultation on section 10 permits.¹¹⁵

C. Court Decisions Interpreting the Jeopardy Standard

Despite jeopardy's central role in the ESA itself, there are surprisingly few courts that have closely examined the jeopardy standard itself. Numerous judicial decisions have ruled on whether FWS or

112. See *supra* note 49.

113. CONSULTATION HANDBOOK, *supra* note 79, at E-24.

114. *Id.* at E-23 to E-24. The Handbook apparently does not make such separation mandatory, however; it employs the term "should" rather than more forceful language in discussing separation between a FWS program involved in an action and those responsible for drafting a biological opinion on the action. The Intra-Service Consultation Handbook's provisions on technical assistance refers to FWS's emphasis in recent years on supplying technical assistance to applicants interested in applying for an incidental take permit or related permission from the agency as one of the incentives to encourage non-federal actors to voluntarily participate in these programs. See CONSULTATION HANDBOOK, *supra* note 79.

115. U.S. FISH & WILDLIFE SERV., NAT'L MARINE FISHERIES SERV., ENDANGERED SPECIES HABITAT CONSERVATION PLANNING HANDBOOK 6-14 (1996), available at <http://endangered.fws.gov/hcp/hcpbook.htm> [hereinafter HCP HANDBOOK]. Like FWS's procedures for intra-Service consultation, the HCP Handbook does not phrase its procedures in mandatory terms. Additionally, the HCP Handbook puts particular emphasis on expediting the permit process, and to avoid delays allows a biological opinion on an HCP to be written by the same office or even the same biologist that assisted in developing the HCP (though in the latter case the Handbook provides that the biological opinion "should be reviewed by another knowledgeable biologist" prior to final approval). *Id.* The HCP Handbook appears more permissive than FWS's Intra-Service Consultation Handbook. FWS presumably would employ its more specific – and more recent – Intra-Service Handbook in the event of a conflict, though none of the provisions regarding impartiality in both Handbooks actually require compliance with any of the procedures they set forth to encourage unbiased internal jeopardy analyses.

NMFS properly applied the agencies' definitions of jeopardy,¹¹⁶ but only a handful have closely examined the concept of jeopardy itself.

Four cases have touched on the relationship between the jeopardy standard and recovery of listed species. In *Fund For Animals v. Rice*, plaintiffs argued that FWS erred in issuing a no jeopardy biological opinion for a federal permit for a landfill in an area identified by the Florida panther recovery plan as important for protection.¹¹⁷ The court rejected this claim, asserting that the ESA "makes it plain that recovery plans are for guidance purposes only," and concluding that "[t]here would be absolutely no point to the consultation and preparation of a biological opinion if the FWS' opinion were predetermined based on" provisions of recovery plan documents.¹¹⁸ Other than its reluctance to find that a recovery plan could "predetermine" the outcome of section 7 consultation, the court did not explain what it saw as the role – if any – recovery should play in jeopardy determinations. The court also did not provide any discussion of why it found untenable the idea that FWS' recovery plan for panthers should influence the agency's conclusions in section 7 consultations.

On the other hand, the Ninth Circuit was asked to overturn NMFS' jeopardy standard for Pacific salmonids, which unlike FWS' interpretation of the jeopardy standard includes substantive considerations of an action's impacts on salmon recovery.¹¹⁹ Rejecting appellants' arguments that recovery should not be a factor in jeopardy analyses, the court held that it could "find no fault" with NMFS' method of assessing jeopardy.¹²⁰ However, the court did not provide any analysis of the jeopardy standard itself or explain its reasons for rejecting appellants' attack on NMFS' interpretation of this standard.

The intervenor-defendants in *Idaho Department of Fish and Game v. NMFS* also took issue with NMFS' incorporation of recovery considerations into its jeopardy analysis of how operations of dams on the Columbia and Snake Rivers affect listed salmon.¹²¹ The district court judge overruled their concerns, however, noting that "I expressly reject any attempt to impose bright-line definitions upon . . . the terms 'survival' vs. 'recovery.'" Where section 7 consultation pa-

116. For example, cases where courts have upheld FWS/NMFS findings on jeopardy, even when based on admittedly weak evidence include *Stop H-3 Ass'n v. Dole*, 740 F.2d 1442, 1458 (9th Cir. 1984); *Greenpeace Action v. Franklin*, 14 F.3d 1324 (9th Cir. 1993). On the other hand, the court found that NMFS did not adequately support its "no jeopardy" finding in *Greenpeace v. Mineta*, 122 F. Supp. 2d 1123 (D. Haw. 2000).

117. *Fund For Animals v. Rice*, 85 F.3d 535 (11th Cir. 1996).

118. *Id.* at 547.

119. *Aluminum Co. of Am. v. Admin'r, Bonneville Power Admin.*, 175 F.3d 1156 (9th Cir. 1999); see *supra* notes 81-83 and accompanying text for discussion of NMFS' jeopardy standard for salmon in the Northwest.

120. *Aluminum Co.*, 175 F.3d at 1162, n.6.

121. *Idaho Dep't of Fish & Game v. Nat'l Marine Fisheries Serv.*, 850 F. Supp. 886 (D. Or. 1994).

rameters end and section 4 recovery measures begin is not a proper matter for judicial bright-line decision making”¹²² To support this conclusion, the court quoted language from the preamble to the 1986 section 7 regulations asserting that “in many cases . . . the difference between injury to survival and to recovery [will be] virtually zero.”¹²³

In an attack against a NMFS jeopardy standard from the opposite perspective from that of appellants in *Aluminum Co. of America v. Administrator, Bonneville Power Administration* and intervenor-defendants in *Idaho Department of Fish & Game*, the parties in *American Rivers v. NMFS* attempted to force NMFS to employ a jeopardy standard more protective of species recovery.¹²⁴ In that case, NMFS had formulated a jeopardy standard requiring listed salmon to have a “high” likelihood of survival, but only a “moderate to high” likelihood of recovery. Dismissing *American Rivers*’ arguments that it was unlawful for NMFS to design a standard that gave less protection to species recovery, the Ninth Circuit, in an unpublished opinion, stressed that NMFS had developed a “case-specific application” of the definition of jeopardy based on its scientific expertise and “decline[d] to second-guess NMFS’ scientific judgment.”¹²⁵

No clear legal roadmap emerges from these decisions to provide guidance on recovery’s proper role in the jeopardy standard. The Eleventh Circuit’s refusal to evaluate the outcome of the Services’ jeopardy determinations in light of the steps outlined in recovery plans is significant in that it severs potential links between recovery under the jeopardy standard and recovery plans formulated by the Services pursuant to section 4 of the ESA,¹²⁶ but this decision says nothing about whether or not recovery should play a meaningful role in the jeopardy standard by virtue of the term’s inclusion in the definition of jeopardy. Perhaps most significantly, courts have been willing to allow NMFS to interpret recovery as a meaningful component of a jeopardy analysis; in a particularly ironic twist, the federal court in *Idaho Department of Fish & Game*, justified its support for NMFS’ approach with a quotation equating survival and recovery from the 1986 regulations’ preamble – which at that time the Services used to

122. *Id.* at 895.

123. *Id.* at 894 (quoting Interagency Cooperation - - Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19926, 19934 (June 3, 1986)).

124. *American Rivers v. NMFS*, No. 97-36159, unpublished disposition (9th Cir., Mar. 8, 1999) (on file with author).

125. *Id.* at 10.

126. Section 4(f) of the ESA, 16 U.S.C. § 1533(f) (1999), requires the Services to develop *and implement* recovery plans (emphasis added). At least in the Eleventh Circuit, FWS and NMFS’ need not implement recovery plans through the section 7(a)(2) consultation process.

justify *removing* recovery considerations from the jeopardy standard.¹²⁷

There are also a small number of decisions that have addressed other important aspects of jeopardy assessments. Courts have given the Services substantial leeway in determining how much risk an action must present in order to justify a jeopardy finding. In *Center for Marine Conservation v. Brown*, plaintiffs argued that protected sea turtles would still suffer from significant adverse impacts even under a reasonable and prudent alternative imposed on fisheries under a NMFS jeopardy biological opinion, and that the reasonable and prudent alternative was thus not sufficient to avoid jeopardy.¹²⁸ While acknowledging the validity of CMC's concerns, the district court concluded that "the argument that the Federal Defendants have not gone far enough is simply insufficient to establish the Defendants have violated their obligation to avoid jeopardy Thus, the fact that shrimping may adversely affect sea turtles and that the Federal Defendants could do more to protect the turtles does not support a jeopardy finding."¹²⁹ Similarly, an Oregon federal judge agreed with salmon conservation advocates that "time is clearly running out" for efforts to revive dwindling runs in the Columbia River Basin.¹³⁰ However, the judge continued, "[a]s a long-time observer and examiner of this process, I cannot help but question the soundness of the selected level of risk acceptance [of NMFS' application of jeopardy to proposed dam operations], but the ESA says nothing about risk tolerance and the limits of judicial review dictate that I not interfere with a federal agencies' [sic] exercise of professional judgment or their reasoned decisions."¹³¹

In a related holding, the Ninth Circuit concluded that FWS need not pick the reasonable and prudent alternative to avoid jeopardy that provided the listed species with the highest degree of protection.¹³² The court emphasized that the Service need only set forth a reasonable and prudent alternative that complies with the jeopardy standard and can be implemented by the action agency; FWS need not even explain why it adopts one alternative over another so long as the one it chooses is sufficient to avoid jeopardy.¹³³

127. Idaho Dep't of Fish & Game v. Nat'l Marine Fisheries Serv., 850 F. Supp 886, 894 (D. Or. 1994).

128. *Center for Marine Conservation v. Brown*, 917 F. Supp 1128 (S.D. Tex. 1996).

129. *Id.* at 1147.

130. *American Rivers v. NMFS*, No. 96-384-MA, slip op. at 26 (D. Or. 1997) (on file with author).

131. *Id.*

132. *Southwest Ctr. for Biological Diversity v. U.S. Bureau of Reclamation*, 143 F.3d 515, 522 (9th Cir. 1998).

133. *Id.*

On the other hand, courts' tolerance for the Services' judgment in making jeopardy assessments appears to have some limits. In *Greenpeace v. NMFS*, NMFS designed a reasonable and prudent alternative for fishing practices affecting Steller sea lions by outlining a fishery that would be "'consistent with past fishery practices and still provide [] a considerable reduction from the current' levels" of harvest.¹³⁴ The court declared this approach unlawful. Though it recognized "the difficult line-drawing issues" presented by the case, the court held that NMFS had merely analyzed whether the resulting fishery reduced the impacts on listed sea lions rather than determined if this level of reduction would avoid jeopardy to the species.¹³⁵

Several recent decisions have found fault with the methodology employed by the Services in their jeopardy analyses. A D.C. federal district court examined several FWS biological opinions dealing with federal activities affecting habitat of Sonoran pronghorn antelope in southwestern Arizona, concluding that FWS was not following the agency's own procedures for assessing the likelihood of jeopardy to this species.¹³⁶ Discussing the section 7 regulations' procedure for assessing the added increment of impact on a listed species over a "environmental baseline" status quo, the court noted that "[i]t is therefore in the analysis of the environmental baseline that other federal action in the action area that impact pronghorn must be taken into account by FWS [in its jeopardy analysis]."¹³⁷ Similarly, the court noted that "[t]he impact of authorized incidental take [caused by the action considered in a given biological opinion] cannot be determined or analyzed in a vacuum, but must necessarily be addressed in the context of other incidental take authorized by FWS."¹³⁸ Rather than performing these sorts of assessments, however, the court found that FWS' biological opinions had recited the various activities and impacts that should be elements of the environmental baseline, but had failed to "also include an analysis of the effects of the action on the species when 'added to' the environmental baseline – in other words, an analysis of the total impact on the species."¹³⁹ The court also found that FWS had narrowly defined the "action areas" in several biological opinions in order to avoid taking into account other federal activities'

134. *Greenpeace v. Nat'l Marine Fisheries Serv.*, 55 F. Supp. 2d 1248, 1265 (W.D. Wash. 1999).

135. *Id.*

136. *Defenders of Wildlife v. Babbitt*, 130 F. Supp. 2d 121 (D.D.C. 2001).

137. *Id.* at 127. The court was careful to avoid labeling as "cumulative effects" the additive effects of multiple federal actions. Section 7 regulations narrowly define cumulative effects as those non-federal activities reasonably certain to occur. See 15 U.S.C. § 1536 (1999).

138. 130 F. Supp. 2d at 127.

139. *Id.* at 128.

effects on pronghorn.¹⁴⁰ It thus remanded the biological opinions to FWS.

Other rulings have also taken the Services to task for ignoring the additive effects of multiple activities impacting listed species. In a decision with potentially broad application to so-called “programmatic” biological opinions, i.e., section 7 assessments that address groups of many similar federal actions across wide areas, the Ninth Circuit found that NMFS was glossing over potentially significant impacts to listed species in reaching a no jeopardy conclusion at the “watershed level” for a series of timber sales.¹⁴¹ NMFS argued that its no jeopardy biological opinion was valid because the challenged sales together represented only a small fraction of a watershed, and that the watershed scale was the appropriate focus of the agency’s jeopardy analysis because the U.S. Forest Service was acting pursuant to a ecosystem-wide planning and restoration strategy.¹⁴² The court disagreed, concluding as follows:

Its disregard of projects with a relatively small area of impact but that carried a high risk of degradation when multiplied by many projects and continued over a long time period is the major flaw in NMFS study. Without aggregation, the large spatial scale appears to be calculated to ignore the effects of individual sites and projects. Unless the effects of individual projects are aggregated to ensure that their cumulative effects are perceived and measured in future ESA consultations, it is difficult to have any confidence in a wide regional no-jeopardy opinion.¹⁴³

NMFS also had another biological opinion struck down when a court determined that the agency had failed to assess the additive impacts on sea lions resulting from fisheries other than those undergoing consultation.¹⁴⁴

Issues of time scales have also led courts to take issue with jeopardy analyses. In addition to finding that NMFS had used a watershed

140. The section 7 regulations describe the “environmental baseline” to include effects from other existing federal actions that have gone through section 7 consultation and non-federal cumulative effects in the “action area” of the project under review. 50 C.F.R. § 402.02 (2000). The regulations in turn define the “action area” of a federal proposal to include “all areas to be affected directly or indirectly by the Federal action [that is the subject of the current consultation] and not merely the immediate area involved in the action.” *Id.* Narrowly defining the action area of a project undergoing consultation thus enabled FWS to avoid assessing as part of the environmental baseline the additive effects on pronghorns of many existing activities and impacts. See 130 F. Supp. 2d at 129-30. See also *infra* notes 168-70 and accompanying text for a discussion of difficulties posed by the Services’ regulatory definitions of environmental baseline and action area.

141. Pacific Coast Fed’n of Fishermen’s Ass’n, Inc. v. Nat’l Marine Fisheries Serv., Nos. 99-36027, 99-36195, 2001 WL 1008147 (9th Cir. 2001).

142. *Id.* at *6-8. The Forest Service manages the land involved in this case pursuant to the Northwest Forest Plan and associated Aquatic Conservation Strategy, which together provide management requirements for millions of acres of land managed by the Forest Service and Bureau of Land Management in the Pacific Northwest.

143. *Id.* at *7.

144. Greenpeace v. Nat’l Marine Fisheries Serv., 80 F. Supp. 2d 1137, 1149 (W.D. Wash. 2000).

scale jeopardy assessment to mask potentially significant site-specific impacts, the Ninth Circuit determined that NMFS' consideration in its biological opinion of only effects that would persist for more than ten to twenty years arbitrarily disregarded short-term impacts on listed species.¹⁴⁵ In *Idaho Department of Fish & Game v. NMFS*, the court found problems with NMFS' definition of jeopardy rather than its application. There, NMFS had defined a "no jeopardy" level of salmon survival as improvement from the average run sizes during a several year "baseline" period. However, the court found this definition of jeopardy arbitrary because NMFS failed to adequately explain its rationale for selecting the baseline period - which happened to coincide with record low runs.¹⁴⁶

Finally, the Services generally receive substantial judicial deference in their decisions about what information they use to make a jeopardy/no jeopardy call. In *National Wildlife Federation v. Babbitt*, plaintiffs challenged FWS' finding that granting the City of Sacramento an incidental take permit would not jeopardize several listed species.¹⁴⁷ Part of National Wildlife Federation's arguments centered on the agency's alleged failure to gather sufficiently specific evidence to perform a reasoned jeopardy analysis. The court, however, was reluctant to hold FWS to more specific scientific requirements:

Plaintiffs' contention appears to be that the ESA requires detailed quantitative information as to each of these factors prior to the issuance of a permit, but plaintiffs cite no authority for such a requirement, and such a requirement would not be reasonable. For the Giant Garter Snake, for example, a reclusive species, it would be extraordinarily difficult to count the number of individual snakes, determine their habitat and habits, and reach conclusions as to their genetic makeup and variability. Instead, the 1997 Biological Opinion makes certain assumptions about the species based upon potential loss of habitat, which is a reasonable approach.¹⁴⁸

Overall, courts decisions examining aspects of the jeopardy standard other than recovery present a mixed bag; while giving substantial deference to what judges perceive as "scientific" issues within the Services' expertise, courts are often willing to examine more closely whether FWS and NMFS are following proper procedures in performing their analyses and can at least provide a good explanation for their jeopardy/no jeopardy conclusions. This trend should come as no surprise. However, it raises some important considerations. First, just how "scientific" is the question of jeopardy under the ESA? In other words, in deciding how much impact on a listed species is too much,

145. Pacific Coast Fed'n of Fishermen's Ass'n Inc., 2001 WL 1008147, at *8.

146. Idaho Dep't of Fish & Game v. NMFS, 850 F. Supp. 886, 893 (D. Or. 1994).

147. Nat'l Wildlife Fed'n v. Babbitt, 128 F. Supp. 2d 1274 (E.D. Cal. 2000).

148. *Id.* at 1297.

where does the science end and the law and policy decisions begin? Additionally, in light of judicial willingness to carefully scrutinize and enforce procedures in assessing jeopardy, are the steps set forth in the Services' regulations and policies adequate to protect listed species?

IV. THE JEOPARDY STANDARD: SHORTCOMINGS AND SOLUTIONS

As the foundation for the ESA's protections, the jeopardy standard faces an enormous task in halting and reversing the decline of hundreds of threatened and endangered species in the United States. Unfortunately, as the list of imperiled species has grown over the years, the Services' evolving interpretation and implementation of the jeopardy standard has dimmed not only the prospects that listed species will recover, but has also placed at risk the very existence of many. This section explains several specific shortcomings in the Services' application of the jeopardy standard, as well as highlights possible changes in policies and practices that, together with existing agency initiatives, could provide for a much more effective national program for conserving the country's biological resources.

A. *Recovery*

The idea that the Services should direct their efforts toward recovery of listed species runs throughout the ESA. Congress expressed as the purpose of the Act itself conservation (synonymous with recovery under the statute) of threatened and endangered species and the ecosystems upon which they depend.¹⁴⁹ Additionally, all federal agencies have an obligation to conserve listed species,¹⁵⁰ and the Services may issue incidental take permits to non-federal entities only after approval of a "conservation plan."¹⁵¹ Given lawmakers' focus on recovery, it stands to reason that the principal regulatory elements of the statute should advance this goal rather than merely attempt to maintain species on the brink of extinction.

It is thus indefensible that the Services have moved away from an interpretation of the jeopardy standard that incorporates meaningful protections for recovery of listed species.¹⁵² The available evidence,

149. 16 U.S.C. § 1531(b) (1999).

150. *Id.* at § 1536(a)(1).

151. *Id.* at § 1539(a)(2)(A). Congress in 1982 modeled section 10's incidental take provisions after an agreement between FWS and a developer that wanted to build on land occupied by an endangered butterfly; the deal involved an agreement by the developer to protect and manage over the long term much of the butterflies' remaining habitat in exchange for the right to develop a small portion of butterfly habitat. H.R. CONF. REP. NO. 97-835, at 30 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2860, 2871. Lawmakers cited favorably the plan's ability to provide for "enhancement of the survival of the species." *Id.*

152. One could potentially argue that section 7(a)(1) directs all federal agencies to use their discretion to take actions to enhance species recovery, while the jeopardy standard of section 7(a)(2) protects against pushing a species too close to extinction. Accordingly, interpreting the

including use of the term recovery in the very definition of “jeopardize the continued existence of,” indicates that FWS and NMFS viewed jeopardy as including a recovery element until the Reagan Administration reversed this policy in the early 1980s. Over the two decades since this about-face, the agencies have effectively removed the ESA’s primary purpose from the statute’s central mandate.

The results of this unfortunate policy are readily apparent. It is rare for FWS or NMFS to issue a biological opinion that concludes that a federal proposal jeopardizes the continued existence of a listed species, and the few jeopardy opinions written by the Services virtually always come up with a reasonable and prudent alternative that allows the action in question to proceed.¹⁵³ While the Services attempt to employ these facts as supporting the idea that society can protect endangered species with little impact on business as usual, these same agencies continually add to the threatened and endangered rolls but rarely remove species from their emergency room status. As Professor Houck observed, “there is no evidence that formal consultation under the Endangered Species Act is stopping the world. Indeed, there is little evidence that it is changing it very much at all.”¹⁵⁴

Rather than working toward restoring listed species and their habitats, today the Services often merely try to slow their slide toward extinction, or, in the words of the Solicitor’s Opinion on cumulative impacts, allocate the “resource cushion” to project after project until species reach the brink of extinction.¹⁵⁵ Legal slight of hand is at the heart of this problem — the semantic charade of jeopardy as an appreciable reduction in the likelihood of “*both* survival and recovery.” Accordingly, law must provide the solution. While modifying the regulatory definition of jeopardy would be the surest way to add recovery

latter to protect species’ recovery as well does not make sense because it improperly conflates these separate statutory provisions. However, this position fails for several reasons. First, the Services have interpreted section 7(a)(1)’s conservation mandate as wholly discretionary. Since lawmakers clearly intended the ESA to obligate all federal agencies to act to restore listed species (*see supra* notes 53-56 and accompanying text), the mandatory provisions of section 7(a)(2) must be the source of at least some of this obligation. Moreover, it is too simplistic to assert that interpreting jeopardy to include recovery protections would subsume or render a nullity section 7(a)(1)’s affirmative conservation mandate. Many activities that adversely affect listed species do not necessarily reduce appreciably species’ chances for recovery; indeed, many actions aimed specifically at long-term habitat restoration have short-term negative impacts on the very species they seek to benefit.

153. In 1994, FWS published a report on section 7 consultations over a six year period. Adjusting for two categories of biological opinions issued individually instead of as a group, the agency reported that it issued only 150 jeopardy biological opinions out of 2,719 formal consultations and 94,113 informal consultations. Of the 150 jeopardy opinions, the agency identified only fifty-four activities blocked by section 7. *See* U.S. FISH & WILDLIFE SERV., FOR CONSERVING LISTED SPECIES, TALK IS CHEAPER THAN WE THINK (Nov. 1994) (copy on file with author); *see also* Houck, *supra* note 15, at 317-21 (discussing additional studies reaching similar conclusions).

154. Houck, *supra* note 15, at 321.

155. 88 Interior Decision 903, 907 (1981).

back into the jeopardy standard (simply eliminating the word “both” and changing “and” to “or” would do the trick), there are several options that do not require new rulemaking.

As noted above, NMFS itself is already implementing a jeopardy standard in dealing with listed salmonids in the Pacific Northwest that differs significantly from applications of this standard over the past two decades. For salmon, NMFS bases its interpretation of jeopardy on an understanding that there is a difference between legal theory and biological reality in managing species in danger of extinction. Outside the Northwest, the Services’ practice of completely separating species’ “survival” and “recovery” has resulted in a biologically bankrupt yet politically expedient legal approach to jeopardy; if the Services assume that species can at least continue to exist over time at their current (or even incrementally lower) population levels and habitat quality, FWS and NMFS can often avoid politically uncomfortable restrictions on federal as well as non-federal activities by finding that actions that perpetuate a species’ status quo or even adversely impact the species do not threaten a species’ “survival” and thus do not rise to the level of jeopardy.¹⁵⁶ However, such an approach does not square with advances in scientific understanding of the nature of extinction. According to well-established tenets of conservation biology, species near extinction face increasing risks of continuing to decline or actually become extinct the longer they remain at depressed population levels.¹⁵⁷ In this light, actions that worsen or even merely perpetuate the status quo for listed species appreciably reduce their chances of continuing to exist over time (and of course also reduce the species’ chances of recovery). NMFS’ approach to defining jeopardy for Pacific salmonids thus recognizes a crucial temporal link between “survival” and “recovery”: unless the population and habitat of a listed species are in the process of improving toward “recovery” levels, the species’ likelihood over time of simply continuing to survive decreases. Accordingly, NMFS issues a jeopardy conclusion when it concludes that a federal activity under review is likely to “appreciably

156. The Services’ definition of survival in their Consultation Handbook facilitates such an approach by characterizing “survival” as the condition where a species “continues to exist into the future while retaining *the potential* for recovery.” CONSULTATION HANDBOOK, *supra* note 79, at 4-35 (emphasis added). Since it is difficult to imagine a population that can continue to exist over time that lacks at least a potential for recovering, this definition allows the Services to approve projects with adverse impacts to listed species while deferring to some undefined point in the future concerns about species recovery.

157. Small populations are particularly vulnerable to catastrophic events, chance demographic occurrences, inbreeding depression, and environmental variation. Accordingly, the longer a listed species remains at depressed population levels, there is a greater likelihood that chance events will severely affect it or even wipe out its population. For an excellent and concise explanation of this concept, as well as how the science of conservation biology studies and predicts extinction risk, see EDWARD GRUMBINE, GHOST BEARS: THE BIOLOGY OF THINKING LIKE A MOUNTAIN 31-41 (1992).

delay” recovery of a listed salmon species, as well as requires that HCPs it approves provide for the “long term survival” of these fish.¹⁵⁸

Applying this concept to all listed species – including in particular the hundreds under FWS’ jurisdiction – would be the most significant step toward restoring imperiled species since Congress enacted the ESA in 1973. There is little doubt that the Services have the legal authority to adopt this position, as the Ninth Circuit concluded when it addressed this very question.¹⁵⁹ A revolution in protections for all listed species is thus virtually at the Services’ fingertips.

The Services (or environmental plaintiffs) could also bring meaningful protections for recovery into the jeopardy standard by recognizing existing connections between recovery plans and section 7 consultation. In the Northwest, NMFS has made jeopardy determinations in part by assessing whether a proposed action is consistent with the applicable recovery plan.¹⁶⁰ While the Eleventh Circuit rejected an attempt to force FWS to do the same, the court apparently did not consider the agency’s own priority scheme for highlighting the importance of certain recovery measures. In setting forth measures in a recovery plan, FWS assigns each action a ranking of 1 through 3. Priority 1 actions are defined as “[a]n action that must be taken to prevent extinction or to prevent the species from declining irreversibly,” while Priority 2 actions are necessary “to prevent significant decline in species population/habitat quality.”¹⁶¹ Given these definitions, FWS should have little choice but to issue jeopardy biological opinions for actions inconsistent with Priority 1 measures in recovery plans, as well as perhaps issue jeopardy findings for actions deviating from Priority 2 actions as well.

The Services’ practice of not even applying the jeopardy standard to projects outside occupied habitat of listed species also raises important issues related to species recovery. Populations of some listed spe-

158. See *supra* notes 82, 86 and accompanying text. However, NMFS provides little indication of what it means to “appreciably delay” species recovery; this ambiguity is a form of the “standards problem” discussed *infra* Section IV.C. Moreover, even NMFS may at times give recovery a back seat to survival under its jeopardy assessment process. As discussed *supra* notes 124-25 and accompanying text, NMFS constructed a jeopardy standard for assessing Columbia River hydrosystem operations, which allowed a lower likelihood of meeting recovery goals than the level of certainty required for meeting survival goals. While such an approach does not seem consistent with the ESA’s emphasis on recovery, the Ninth Circuit allowed this disparity in an unpublished decision. *Id.* Finally, whether or not NMFS has properly applied its jeopardy standard in a particular context raises a host of separate questions.

159. See *supra* note 119 and accompanying text.

160. In its 1995 biological opinion on operations of dams on the Columbia and Snake Rivers, NMFS based its jeopardy determination in part on the proposed operations’ consistency with a draft salmon recovery plan. See Reinitiation of Consultation on 1994-1998 Operation of the Federal Columbia River Power System and Juvenile Transportation System in 1995 and Future Years, Nat’l Marine & Fisheries Serv. Biological Op., at 14 (Mar. 2, 1995).

161. Endangered and Threatened Species Listing and Recovery Priority Guidelines, 48 Fed. Reg. 43098-02, 43104 (Sept. 21, 1983).

cies have dwindled to the point where they currently inhabit a range smaller than necessary for their eventual recovery. If such a species lacks designated critical habitat, impacts to “expansion” habitat essential to the species’ recovery currently can proceed without scrutiny under section 7 since FWS and NMFS perform jeopardy analyses only for proposed federal actions within the *current* range of listed species.

Two potential solutions exist for this problem. First, since the Services have authority to designate critical habitat for species outside of their current ranges, a policy prioritizing such designations for those species whose recovery depends on expanding their ranges would move FWS and NMFS toward better protecting the recovery of these critically imperiled species. Additionally, the Services could employ their policy of designating “recovery units” for jeopardy analyses of listed species where the geographic boundaries of these units encompass not just occupied habitat, but also areas needed for recovery.¹⁶² This would provide section 7 protection for necessary expansion habitat by making the jeopardy standard applicable to these areas.¹⁶³

Finally, a better understanding of the jeopardy standard’s history holds the key for moving toward protection for species recovery on non-federal land. When they decide whether to grant incidental take permits, the Services currently employ the jeopardy standard as the key substantive requirement because these agencies interpret section 10’s approval criteria to simply re-state the jeopardy standard. The Services thus do not require section 10 incidental take permits to assist in recovering listed species. However, the Services err in equating their current interpretation of jeopardy with the statutory permit approval criteria in section 10. While Congress did in fact borrow from the regulatory definition of jeopardy to craft section 10, it used the 1978 definition of jeopardy, not the 1986 definition. The earlier regulations’ concept of jeopardy appears to have incorporated real protections for recovery.¹⁶⁴ Lawmakers, who made conservation plans the touchstone of section 10 and discussed how permits issued under this

162. See *supra* notes 94-95 and accompanying text for a discussion of “recovery units.”

163. Those opposed to protecting a listed species in areas beyond its current range could potentially challenge this approach as constituting an illegal de facto designation of critical habitat, an argument pressed by ranchers in *Bennett v. Spear*, 520 U.S. 154, 160 (1997). To the extent the Services continue to argue that the jeopardy and critical habitat provisions of section 7 are essentially the same, it is logical that the Services should have authority to apply the jeopardy standard to unoccupied habitat without having to designate it as critical habitat. However, courts have begun to force the Services to examine the economic consequences of designating critical habitat, rejecting agency assertions that the overlap between the jeopardy and critical habitat mandates makes such analysis unnecessary. See *New Mexico Cattle Growers Ass’n. v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277 (10th Cir. 2001). Such decisions could potentially lend support to arguments against applying the jeopardy standard to unoccupied habitat.

164. For a discussion of early interpretation of the jeopardy standard, see *supra* notes 51-66.

section should benefit listed species over the long term,¹⁶⁵ would have found it logical to incorporate the phrase “survival and recovery” from the then-existing jeopardy definition as long as the term “recovery” was a meaningful part of this phrase. Accordingly, the Services mislead the public, permit applicants, and reviewing courts when they assert that section 10 merely re-states the current jeopardy standard. When Congress in 1982 authorized the Services to grant incidental take permits, it understood jeopardy to be a very different measure than it has subsequently become. Accordingly, it is improper to read the “survival and recovery” requirement in section 10 to make recovery superfluous in the manner in which FWS currently interprets the “both survival and recovery” phrase in the current jeopardy definition. Correcting this major flaw in implementing the ESA would put considerations of conservation of listed species back into the process for approving conservation plans. In so doing, it would provide critical protections for the vast numbers of listed species dependant on non-federal land for their eventual recovery.¹⁶⁶

B. *Scope of Jeopardy Analyses*

As outlined in Section III, the Services assess a proposal’s likelihood of jeopardizing the continued existence of listed species by asking whether the effects of the action, when added to “environmental baseline” conditions, will appreciably reduce both the survival and recovery of the species (or explicitly designated recovery unit) *as a whole*. On its face, this analytical process by its nature makes a jeopardy finding for a particular project extremely unlikely; FWS or NMFS must find that the very project undergoing consultation will be the “straw that breaks the camel’s back” and thus put the entire species into a jeopardy situation. This methodology demands biological distinctions that are virtually impossible, particularly given the paucity of data and even scientific knowledge concerning most species. It borders on the absurd to even attempt to assess whether, for example, a single timber sale in Oregon will jeopardize the continued existence of marbled murrelets throughout their listed range from northern Cali-

165. The conference committee report for the 1982 ESA amendments strongly indicates that Congress intended that conservation plans and incidental take permits provide benefits for covered species. Describing this process, lawmakers asserted that “[t]he secretary, in determining whether to issue a long-term permit to carry out a conservation plan should consider the extent to which the conservation plan is likely to enhance the habitat of the listed species or increase the long-term survivability of the species or its ecosystem.” See H.R. CONF. REP. NO. 97-835, at 29 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2860, 2870.

166. Habitat on non-federal land is important for recovery of the majority of listed species that occur in the United States. According to a 1994 GAO study, seventy-three percent of domestic listed species relied on non-federal lands for the majority of their habitat. General Accounting Office, Information on Species Protection on Nonfederal Lands, GAO/RCED Rep. No. 95-16 (1994) (on file with author).

fornia through Washington. As the Interior Solicitor recognized in 1986, this procedure runs a substantial risk of nickeling and diming species toward extinction.¹⁶⁷

However, the existing section 7 regulations make this problem even worse. These regulations provide that the FWS or NMFS should make a species-wide jeopardy assessment by examining the impacts of the action under consideration, added to the “environmental baseline.”¹⁶⁸ Incongruously however, the regulations define this “baseline” to include only conditions in the “action area” of a proposed project rather than the status of a species throughout its range.¹⁶⁹ Accordingly, while the regulations direct FWS and NMFS to attempt to determine whether a single action will cause jeopardy species-wide, they instruct the Services to perform task by using as the focal point of their analyses the baseline status of the species within only the “action area” affected by the individual proposal undergoing consultation. While the Services, in reaching their conclusion as to the likelihood of jeopardy for a specific proposal, theoretically account for the status of the species outside the action area by considering the “current status” of the listed species overall,¹⁷⁰ such an analytical process is virtually unworkable. Even if the Services had a reliable process for tracking species’ current range-wide status (which in reality they lack), the regulations’ focus on a narrow baseline for jeopardy analyses precludes consideration of range-wide cumulative effects and the effects of federal actions that have been the subject of a section 7 consultation but have yet to be implemented. Moreover, as a practical matter, the regulations’ emphasis on determining effects within the action area but assessing jeopardy range-wide result in short-shift to the latter. On the whole, the regulations’ wrong-headed approach to connecting effects analysis to an ultimate range-wide jeopardy conclusion is essentially the equivalent of attempting to forecast the weather for an entire state or region by glancing out the window of one’s

167. See *supra* note 89 and accompanying text. The Solicitor noted that this concern applied to “certain wide-ranging species.” However, other than perhaps species with extremely narrow ranges, there is no reason that this problem would not apply to all listed species affected by multiple projects.

168. See 50 C.F.R. § 402.02 (2000) (definition of “effects of the action”).

169. *Id.* (defining environmental baseline as the “past and present impacts of all Federal, State, or private actions and other human activities *in the action area*, the anticipated impacts of all proposed Federal projects *in the action area* that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in progress.”) (emphasis added). Cumulative effects considered as part of a jeopardy analysis also include only those effects within the action area. See *id.* (definition of “cumulative effects”). The section 7 regulations define action area to mean “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” *Id.* Though this definition requires the Services to consider an area larger than the footprint of a project, even broad outlines of action areas are in most cases likely encompass only a fraction of the area occupied or needed by an entire species or recovery unit.

170. See 50 C.F.R. § 402.14(g)(2).

home. Such a forecast, like a scientifically credible jeopardy determination under existing section 7 regulations, is virtually impossible.

This problem has a straightforward solution: the Services should revise their policies and/or regulations to ensure that the agencies use an “environmental baseline” that matches the scope of their jeopardy analyses. If FWS and NMFS persist in analyzing jeopardy species-wide, they at least need to employ in doing so a baseline for analysis that accurately reflects the current status of the species throughout its range. A better solution, however, would be to shrink the scope of the agencies’ jeopardy analysis down to the current regulations’ definition of environmental baseline – meaning that the Services would analyze whether a proposed action would jeopardize the continued existence of the species within the “action area” of the proposal undergoing section 7 consultation. This scope of analysis has the benefit of being feasible biologically in addition to being internally consistent. If FWS or NMFS felt that this scope of analysis would be too narrow for certain species, the agency could define in a listing notice or recovery plan a spacial scale for jeopardy analyses it believed to be more appropriate. Such a policy would be the opposite of the Services’ current approach to defining the scope of jeopardy analyses, but would provide listed species much more effective and biologically credible protection.

Finally, no matter how the Services define the “environmental baseline” for their jeopardy analyses, they obviously must have the necessary information to determine current conditions facing listed species across their ranges. Incidental take authorized by the Services provides an excellent example of this concept. FWS or NMFS routinely authorize federal as well as non-federal entities to incidentally take members of a particular species, but there is obviously a finite level of incidental take that can take place before any additional take would jeopardize the continued existence of the species. In deciding whether to authorize an additional increment of incidental take of a listed species, it is therefore crucial that the agencies know how much take they have *already* allowed, as well as how many members of the species currently exist. Yet the agencies at present have virtually no procedures in place to actually keep track of the amount of incidental take that they themselves have authorized, much less methods for otherwise tracking the current status and trends of the species. Though the Consultation Handbook calls for such a tracking system for all listed species, this system apparently remains merely an aspiration rather than reality.

Attempting to make biological judgments about the existence of entire species when the Services cannot even reliably determine how

many members of that species they have authorized to be killed or injured obviously poses major biological as well as legal difficulties. As noted above, courts have already cited this sort of problem in striking down jeopardy/no jeopardy findings by FWS and NMFS.¹⁷¹ Other similar cases are pending.¹⁷² The Services face major challenges in designing and maintaining data systems that will enable them to make supportable findings on whether a project under consideration will jeopardize the continued existence of a protected species in light of everything that has affected the species previously. Without such systems in place, however, they are likely to lose an increasing number of judicial challenges to their jeopardy/no jeopardy calls based on their inability to maintain accurate descriptions of environmental baselines.

C. *Lack of Biological Standards*

Unfortunately, most policymakers - as well as many biologists - misunderstand the jeopardy standard's function as a biological benchmark. The jeopardy/no jeopardy line separates acceptable from unacceptable impacts on listed species. But behind this delineation lies a crucial question: how do (or should) the Services decide on an "acceptable" level of impact on listed species?

"Jeopardize the continued existence of" is not a biological term of art with a specific scientific definition; it is simply a phrase coined by Congress when lawmakers enacted the Endangered Species Act in 1973. Moreover, there is no magic number above which a population is secure or below which it is headed toward extinction.¹⁷³ Accordingly, even with perfect information, one cannot use science alone to say when a species faces "jeopardy" and when it does not. Instead, a jeopardy determination - like calls regarding similar biological benchmarks - is of necessity a two step process. First, the Services must decide what level of risk to species or populations is too much, i.e., draw the line between "acceptable" risk and the level of risk that constitutes "jeopardy" to listed species. Next, biologists must apply this standard to individual cases by using their scientific expertise to assess whether the impacts caused by a specific proposal will result in

171. See *supra* notes 136-44 and accompanying text.

172. In *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, Case No. C00-5462-FDB (D. Or.) (pending) (on file with author), plaintiffs are challenging numerous FWS biological opinions authorizing incidental take of northern spotted owls on grounds that the agency's no jeopardy conclusions were arbitrary because FWS has no idea of the number of owl takings it has previously authorized, nor how many owls have actually been taken.

173. Scientists have spent considerable time searching for such numbers, termed by one author as "the holy grail of conservation biology." GRUMBINE, *supra* note 157, at 34. Though some have proposed 50 and 500 individuals as the minimum number needed to avoid inbreeding depression over the short term and maintain viability over the long term, respectively, there are many factors that render these numbers problematic. See *id.* at 34-39. Ultimately, the acceptable "minimum" number of a species depends on society's tolerance of risk for that species or species generally. *Id.* at 40.

a level of risk to the species that crosses over the line between jeopardy and no jeopardy. The difficulty lies in the fact that the first step involves a policy judgment, whereas the latter calls for a scientific determination.¹⁷⁴ Congress has thus given the Services the difficult job of playing dual roles as policymaker and scientific expert in reaching jeopardy determinations under the ESA.

Lawmakers have provided the Services with only vague guidance to assist them in making the difficult policy choice of how much risk to listed species is too much. The ESA itself requires that agencies insure that their actions do not jeopardize listed species, but gives no indication of what “insure” or “jeopardize” mean. The statute’s legislative history indicates that Congress intended FWS and NMFS to be relatively conservative in allowing risks to listed species, characterizing the section 7 process as “the institutionalization of caution,” and as giving “the benefit of the doubt” to listed species.¹⁷⁵ However, this still leaves the Services significant latitude to decide just *how* cautiously to manage listed species. With the economic and opportunity costs of protecting species on one hand and risks of species extinctions on the other, defining jeopardy in these terms is clearly not an easy or comfortable question.

In most cases, FWS and NMFS have avoided grappling with this difficult decision by simply dropping the policy step of a true jeopardy analysis. Accordingly, in the vast majority of biological opinions, the Services make a jeopardy/no jeopardy call without first drawing the line between the magnitude of risk to listed species they consider acceptable and the level of risk they consider unacceptable. The United States Court of Appeals for the District of Columbia Circuit used an analogy to describe a nearly identical “benchmark” problem involving the Environmental Protection Agency’s (EPA) efforts to distinguish between healthy and unhealthy levels of pollutants:

Here it is as though Congress commanded EPA to select “big guys,” and EPA announced that it would evaluate candidates based on height and weight, but revealed no cut-off point. The announcement, though sensible in what it does say, is fatally incomplete. The reasonable person responds, “How tall? How heavy?”¹⁷⁶

174. Many people find it difficult to accept that judging jeopardy involves a significant policy component. However, deciding how much risk is too much with respect to threatened and endangered species is not unlike deciding how much life insurance to purchase. There is no “right” answer – people averse to risk will spend more money to buy more life insurance while those more willing to take chances will buy less. Pegging acceptable levels of risk for species and buying life insurance thus involve policy choices rather than “scientific” determinations. *See id.* at 40; Mark Schaffer, *Minimum Population Sizes for Conservation*, 31 *BioSCIENCE* 131, 132 (1981).

175. H.R. REP. NO. 93-412, at 4-5 (1973); H.R. CONF. RPT. NO. 697, at 12 (1979), *reprinted in* 1979 U.S.C.A.N. 2572, 2576.

176. *Am. Trucking Ass’n, Inc. v. Env’tl. Prot. Agency*, 175 F.3d 1027, 1034 (D.C. Cir. 1999), *modified on rehearing*, 195 F.3d 4 (D.C. Cir. 1999), *aff’d in part, rev’d in part*, *Whitman v. Am. Trucking Ass’n, Inc.*, 531 U.S. 457 (2001). The Supreme Court held that the statute directing

Putting this in an ESA context, FWS and NMFS essentially take a “we know a big guy when we see one” approach to defining jeopardy.

There are numerous problems with this approach. Chief among them is that it allows the Services to make *either* a jeopardy or no jeopardy call for the *same* biological impact to listed species. Just as someone could be described as a “big guy” or not depending on the criteria one uses for what is “big,” without employing any meaningful expression of the degree of risk that constitutes “jeopardy,” FWS and NMFS are often in a position to make either a jeopardy or no jeopardy call for a particular action. If FWS or NMFS never establish and disclose a definite standard prior to performing a jeopardy analysis on a proposed project, as is usually the case, the agency is free to make either choice.

When the Services put themselves in a position to either approve or disapprove actions based on identical biological analyses, factors other than risks to the species – including economics, politics, public controversy and the like – are much more likely to influence the Services’ jeopardy assessments. Put another way, when FWS and NMFS select “big guys” without first defining “big,” they can make choices based on wealth, looks, social status, or other factors that have little to do with size. Moreover, to the extent that the Services do allow economics, politics, and similar factors to influence their jeopardy analyses, the lack of any standards allowing for critical evaluation of their findings permits the agencies to hide the true reasons for their decisions behind claims of scientific expertise (“I am an expert, so you should just trust me when I say this guy is ‘big.’”). Unless the public or a reviewing court understands the two step policy and science mix that a true jeopardy determination requires, it has no basis to question the “expert biological judgment” of the agency.¹⁷⁷

EPA to set pollution limits at a level necessary to “protect the public health” set forth enough of an “intelligible principle” so that the statute was “well within the outer limits of [the Court’s] nondelegation precedents.” *Id.* at 467.

177. The Services also have policies that increase the likelihood that politics, economics, and the like will influence their jeopardy analyses. In 1994, FWS and NMFS adopted a policy on use of scientific information in ESA implementation, which requires “management-level review of documents developed and drafted by Service biologists to verify and assure the quality of the science used to establish official positions, decisions, and actions taken by the Services during their implementation of the Act.” Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act, 59 Fed. Reg. 34271 (July 1, 1994). Such “management level review,” however, can also force changes to biological conclusions to better comport with political or other aims. Similarly, the Consultation Handbook provides that the Services should provide an action agency with a copy of a draft biological opinion upon request, as well as allow applicants for federal permits to request a draft biological opinion through an action agency. See CONSULTATION HANDBOOK, *supra* note 79, at 1-12. In addition to providing action agencies and applicants an opportunity to discuss technical issues, receiving a copy of a biological opinion in draft form allows these entities to bring political or other pressure to bear on FWS or NMFS if they do not like the contents of the draft.

Lastly, when they employ ad hoc definitions of jeopardy, the Services inevitably accord different levels of protections to different species. Studies have found that the agencies have put priority on “cute and cuddly” species in other aspects of administering the ESA; this likely occurs in the section 7 realm as well given the lack of a standard definition of jeopardy.¹⁷⁸ Applying varying levels of protection to different species under the jeopardy standard is at odds with Congress’ emphasis on the importance of protecting all species alike.

A relatively simple solution also exists to remedy these problems with the Services’ implementation of the jeopardy standard: FWS and NMFS should engage in a policy-making process — with public participation — to develop an explicit biological standard for use in assessing jeopardy.¹⁷⁹ The agencies could then employ this standard in all section 7 consultations.¹⁸⁰ Such a process would allow the public and the Services to explicitly discuss and resolve the crucial policy question of what level of risk should serve as the management standard for threatened and endangered species.

NMFS has pioneered an approach that could serve as a model for developing a comprehensive and biologically explicit description of jeopardy. In a 1995 biological opinion assessing Columbia Basin hydrosystem operations’ impacts on listed salmon, NMFS identified

178. In a report analyzing the Services’ recovery planning program, the General Accounting Office found that FWS allocated recovery funds for listed species according to public appeal rather than need in order to foster a positive perception of its recovery program. General Accounting Office, Management Improvements Could Enhance Recovery Program, Rpt. No. RCED-89-5 (1988) (on file with author). Additionally, in a fascinating study of the ESA listing decisions that also provides an excellent illustration of the “benchmark” problem discussed in this section, a Ph.D. candidate noted that mammals as threatened had dramatically higher population numbers than other species. Andrea Easter-Pilcher, *Implementing the Endangered Species Act*, 46 *BIOSCIENCE* 355 (1996).

179. An obvious question would be how to express this standard. Biologists generally express the viability of a population in terms of its likelihood of persistence over time, accounting for foreseeable effects of demographic, environmental, and genetic stochasticity (i.e., chance events), as well as natural catastrophes. See Shaffer, *supra* note 174, at 132. The policymaking process, guided by Congress’ admonitions outlined *supra* note 175 and accompanying text, would have to fill in the blanks in this equation — what percentage chance of existence over what time period. It would be best to express these values numerically; Shaffer, for example, suggested secure population should have a ninety-nine percent chance of remaining extant for 1000 years. See Shaffer, *supra* at note 174, at 132.

180. In the preamble to the 1986 section 7 regulations, the Services suggested that the concept of survival “varies widely among listed species” and that FWS and NMFS would apply the jeopardy standard “on a case-by-case basis, taking into account the particular needs of and the severity and immediacy of threats posed to a listed species.” Interagency Cooperation — Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19926, 19934 (June 3, 1986). This is somewhat misleading, however. While it is clearly true that the numbers of individuals, habitat required, and other factors needed to achieve a given level of security would vary widely among listed species, this does not cut against applying one standard of acceptable risk for all listed species. In other words, the number of individuals and amount of habitat needed for achieving Shaffer’s suggested security level of ninety-nine percent chance of existence over 1000 years, *supra* note 174, would differ between grizzly bears and salmon; 2000 individuals may suffice for the former whereas tens of thousands may be needed for the latter. What is in fact required to meet this level of security is simply a biological question. But one standard of security would suffice for all species; indeed, Congress did not provide the Services with authority to manage some listed species with a lesser degree of protection than others.

population levels for listed salmon runs associated with “survival” of the runs and a larger population target that represented the species at recovery. The agency then studied whether the proposed operations would allow the fish to maintain or achieve “survival” levels over the near term, as well as achieve recovered levels over a longer term.¹⁸¹ This expression of the jeopardy standard combined a definite and biologically meaningful description of the jeopardy/no jeopardy line with a temporal component, as well as included consideration of the listed species’ chances for recovery. With a substitution of more general expressions of risk (defined through a policymaking process) for the specific population figures employed by NMFS in this biological opinion, wider adaptation of this method of defining and assessing jeopardy holds promise for integrating policy and science to create a transparent and workable jeopardy standard for threatened and endangered species.

V. CONCLUSION

The jeopardy standard of section 7(a)(2) forms the heart of the Endangered Species Act’s protections for threatened and endangered species. It establishes the substantive bar by which the Services measure all federal actions that affect listed species. Moreover, through both the language of section 10 and application of the consultation process to permit decisions, the jeopardy standard also constitutes the primary federal regulatory influence on management of non-federal lands. Accordingly, the extent to which FWS and NMFS succeed in advancing the ESA’s purposes – conservation, i.e., recovery, of listed species and the ecosystems upon which they depend – depends principally on how they interpret and implement section 7’s prohibition against jeopardizing the continued existence of threatened and endangered species.

The Services’ concept of jeopardy, as well as the methodology they employ in applying this standard, has evolved significantly over the years. Available evidence, though frustratingly scant, indicates that in the 1970s FWS and NMFS interpreted the jeopardy standard to provide protection for the recovery of listed species, in addition to preventing actions pushing these species appreciably closer to extinction. However, at the beginning of the Reagan Administration in 1981, the Services subtly modified their concept of jeopardy to effec-

181. Reinitiation of Consultation on 1994-1998 Operation of the Federal Columbia River Power System and Juvenile Transportation System in 1995 and Future Years, Nat’l Marine Fisheries Serv. Biological Op. (Mar. 2, 1995); *see also* Life-Cycle and Passage Model Analyses Considered In Evaluating the Effects of Actions During Reinitiation of Consultation on the Biological Opinion on 1994-1998 Operation of the Federal Columbia River Power System, Nat’l Marine Fisheries Serv. Biological Op., at 46 (Mar. 2, 1995).

tively eliminate considerations of recovery in jeopardy analyses. Further, over time the agencies modified their approach to analyzing jeopardy in a manner which renders a jeopardy conclusion for any given agency proposal all but impossible. While courts have been willing to scrutinize the Services' procedures, the judiciary typically gives FWS and NMFS wide latitude in areas it sees as within their biological expertise.

As currently implemented by FWS and NMFS – with a notable exception involving the latter – the ESA's jeopardy standard utterly fails to provide workable protections for listed species. It does not protect species' recovery, employs unworkable and even conflicting scales of analysis, and lacks any semblance of biological standards, thus enabling the Services to employ nearly unfettered discretion under the guise of applying their scientific expertise. As a result, modern section 7 consultations and evaluations of HCPs are often little more than negotiating sessions in which FWS and NMFS attempt to find common ground with project proponents, then pronounce the resulting deal biologically sound based on criteria so vague as to be essentially meaningless.¹⁸²

If the ESA is to serve as the United States' foundation for biodiversity protection and restoration in the twenty-first century – there is nothing else to fill this role on the immediate horizon – reform in interpreting and applying the jeopardy standard is essential. The Services could remedy the current inadequacies surrounding the jeopardy standard to major effect with relatively modest changes in policies or regulations; NMFS itself has pointed the way for at least some of these needed actions in its application of the ESA to Pacific salmon. Currently, however, those charged with digging the foundation for species conservation have been issued spoons rather than backhoes to accomplish the task.

182. The Services, as well as other federal agencies and/or applicants, often enter into these de facto negotiations fully aware that a jeopardy biological opinion is not even a possibility. Typically, therefore, the negotiations that take place over federal proposals revolve solely around the extent of the mandatory "reasonable and prudent measures" and "terms and conditions" that the Services set forth in incidental take statements pursuant to 16 U.S.C. § 1536(b)(4)(C)(ii) and (iv). Negotiations with applicants for incidental take permits are somewhat more wide-ranging, but take place in a context under which the applicants are fully aware that the bar is set very low.